VOL. XXVI DECEMBER, 1950 No. 51

UNIVERSITY OF MICHIGAN
APR 10 1951
PERIODICAL READING ROOM

THE ECONOMIC RECORD

THE JOURNAL OF

the Economic Society of Australia and New Zealand

CONTENTS

I. Articles —

		PAGE
THE BUDGET AND THE BASIC WAGE ..	COLIN CLARK	179
PROGRESS REPORT ON THE TRADE CYCLE	T. W. SWAN	186
INVESTMENT AND IMMIGRATION IN AUSTRALIA IN THE 1950's	D. M. BENSUSAN-BUTT	201
THE IMPORTANCE OF WOOL IN AUSTRALIA'S NATIONAL INCOME	S. P. STEVENS	217
THE USE OF THEORY IN HISTORY	J. F. CAIRNS	239
NEW INDUSTRIAL TRIBUNALS IN NEW ZEALAND	R. S. PARKER	254
EMPLOYMENT IN NEW SOUTH WALES MANUFACTURING INDUSTRIES, 1877 to 1938-39	H. R. EDWARDS	270

II. News and Notes 278

III. Notes —

TRENDS IN THE CONSUMPTION OF COAL IN NEW SOUTH WALES 1850-1914	A. R. HALL	280
MEASURES FOR FULL EMPLOYMENT	D. COCHRANE	295

IV. Reviews — (See inside cover) 305

MELBOURNE UNIVERSITY PRESS

Price Six Shillings net

Registered at the G.P.O., Melbourne, for transmission by post as a Periodical.

REVIEWS

	Page
ALASCO, J: *Intellectual Capitalism* .. .. E. E. WARD	345
BALOGH, T: *The Dollar Crisis; Causes and Cure* .. G. G. FIRTH	311
BRAY, F. SEWELL: *Social Accounts and the Business Enterprise Sector of the National Economy* .. .. L. GOLDBERG	314
BUSSCHAU, W. J.: *The Measure of Gold: The Role of Gold as International Money* .. .. H. W. ARNDT	324
BUTTERS, J. KEITH and NILAND, POWELL: *Effects of Taxation: Inventory Accounting and Policies*. .. .. J. E. ISAAC	332
DE MARCO, ANTONIO DE VITI: *First Principles of Public Finance* J. E. ISAAC	333
EINAUDI, L.: *Lezioni di Politica Sociale* .. .. .. C. R. BADGER	331
GARNETT, A. CAMPBELL: *Freedom and Planning in Australia* P. H. PARTRIDGE	336
HALL, F. G.: *History of the Bank of Ireland* .. .. .. S. J. BUTLIN	323
HALL, FORD P.: *Government and Business* .. .. D. M. HOCKING	350
HAYEK, FRIEDRICH A.: *Individualism and Economic Order* KURT SINGER	305
HIGGINS, B. H.: *Lombard Street in War and Reconstruction* S. J. BUTLIN	338
INNIS, H. A.: *Empire and Communications* .. .. J. A. LA NAUZE	316
INSTITUTE OF BANKERS: *The Pattern and Finance of Foreign Trade* .. .. WILFRED T. DOWSETT	341
INSTITUTE OF PACIFIC RELATIONS: *Problems of Economic Reconstruction in the Far East* .. .. M. RONALDSON	338
KLEIN, L. R.: *The Keynesian Revolution* .. .. .. G. S. L. TUCKER	331
LASSERRE, GEORGES: *Socialiser dans la Liberté, la vocation de l'Europe* .. .. K. M. DALLAS	327
LEWIS, W. ARTHUR: *The Principles of Economic Planning* DONALD COCHRANE	313
MEHTA, M. M.: *Structure of the Cotton Mill Industry in India* A. BARNARD	347
MILBANK MEMORIAL FUND: *Problems in the Collection and Comparability of International Statistics* .. .. H. P. BROWN	347
MILLS, FREDERICK C. and LONG, CLARENCE D.: *The Statistical Agencies of the Federal Government* .. .. N. TREWHELLA	342
NAG, D. S.: *A Study of Economic Plans for India* .. .. D. W. OXNAM	348
NATARAJAN, B.: *An Essay on National Income and Expenditure in India* .. .. C. S. SOPER	340
NORMANO, J. F.: *The Spirit of Russian Economics* CYRIL RENWICK	350
RADBRUCH, A.: *Langfristige Auslandskredite* .. .. M. J. GROBTUCH	309
REID, D. C.: *Money and Organization* .. .. A. J. REITSMA	344
RENWICK, CYRIL and SIMPSON-LEE, G. A. J.: *The Economic Pattern. An Elementary Text Book for Australian Readers* MERAB TAUBMAN	354
SOMERS, H. M.: *Public Finance and National Income* .. R. HIRST	349
SOMERVELL, HUBERT: *Industrial Peace in Our Time* D. W. OXNAM	310
THOMSON, DONALD F.: *Economic Structure and the Ceremonial Exchange Cycle in Arnhem Land* .. .. R. M. CRAWFORD	352
UNITED NATIONS: *Demographic Year Book, 1948* .. P. H. KARMEL	325
UNITED NATIONS: *Economic Survey of Europe in 1949* D. B. COPLAND	307
UNITED NATIONS: *European Steel Trends in the Setting of the World Market* .. .. N. R. WILLS	320
UNITED NATIONS: *Final Report of the United Nations Economic Survey Mission for the Middle East* .. .. J. GENTILLI	326
VON MISES, LUDWIG: *Human Action. A Treatise on Economics* F. SCHNIERER	328
WHYTE, L. G.: *Principles of Finance and Investment* GORDON BRUNS	334
WILLS, NEVILLE R.: *Economic Development of the Australian Iron and Steel Industry* .. .. J. F. CAIRNS	318
THE YEAR BOOK OF WORLD AFFAIRS, 1950 .. HENRY MAYER	339

THE ECONOMIC RECORD

DECEMBER, 1950

THE BUDGET AND THE BASIC WAGE*

"The composition of this book has been a long struggle of escape," Lord Keynes wrote in the preface to his *General Theory*, "from habitual modes of thought and expression. The difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those brought up as most of us have been, into every corner of our minds."

All through the 1930's Keynes laboured to convince the world that the then orthodox theories of deflation were cumbrous and inadequate, and that a valid *theory of employment* was our primary requirement for escape from the Great Depression. By the end of the decade his ideas had won the day—by which time of course the opportunity for their practical application had gone by—a contingency which he himself predicted in a conversation which I had with him in 1930.

Just as in the 1930's economists spent their time talking about deflation whereas their real duty was to provide a cure for under-employment, so now we are all talking about inflation when our real object is to correct the state of *over-employment*. To keep our theory of Money and our Theory of Employment in separate compartments of our minds leads to the frustration of both: this is just as true now as it was in the converse circumstances of the Great Depression. But a great many people are still doing it. As if we were still living in the 1920's and the *General Theory* had never been written, we hear urgent discussions of minor issues such as whether the issue of Treasury Bills is more inflationary than other loan raisings, and even the meaningless phrase "velocity of circulation" still makes occasional appearances.

Admittedly the change in our modes of thought will not be easy. For the last twenty years Australia has thought in terms of under-employment—during the 1930's as a current fact, and throughout the 1940's in confident expectation of a great depression within the next year or two. (As soon as the war had ended, the Commonwealth called on the States for a large public works programme to absorb the unemployed expected for 1946; then the expected depression was deferred for a year or so; Canberra seemed almost as disappointed as Moscow when it did not materialize.) For all these years the primary object has been to "create employment"—

* This article expresses the personal views of the author only and in no way commits the Queensland Government.

in public finance, in fiscal and currency policy, in promoting industrial development, and in every other activity, till the concept has saturated our minds right down to the subconscious level. (Indeed, this persistent expectation of a recurrence of depression may be due to a subconscious desire to put the familiar mental equipment back into use again.) But if, as seems much more probable, the opposite conditions are going to persist for some years, we must face all the surprising consequences that follow from the fundamental truth that our primary object now is to *reduce* the demand for labour wherever we can. Operations in the monetary field are secondary—very much secondary—to this objective.

Our objective is to convert *over-employment* not into *under-employment,* but into a nicely balanced *full employment.* This can only be defined in a commonsense manner as a state of affairs in which neither does the wage-earner suffer from a shortage of employment nor the employer from a shortage of labour. In the 1930's many of the unemployed found that no conceivable effort or sacrifice could obtain them a job; now many employers have given up trying to get that labour which their businesses urgently need. To be as precise as possible, we can define full employment as that state of affairs in which the wage-earner who loses his job can find another without serious delay, hardship or readjustment, and the employer who is short of labour can satisfy his requirements if he is willing to make reasonable concessions on wages or working conditions. It is clear that the attainment of this objective cannot be measured by statisticians, but can only be judged by a consensus of opinions of those familiar with industrial conditions.

Our task must be to remedy over-employment, by increasing the supply of labour, or by reducing the demand for it. Still further acceleration of migration can hardly be possible, and the only way to effect a substantial increase[1] in the supply of labour is to have a longer working week. Alternatively, we can reduce the demand for labour. This means, for many people, the termination of their present employments. It is true that there will be plenty of other work to go to, but the people concerned will have the effort and anxiety of a change in employment.

Either of these proposals will bring cold shudders to believers in "political expediency." Such politicians and their economic yes-men are full of good intentions towards the wage-earner. They have forgotten that it is good intentions which pave the road to Hell. If political expediency is going to compel us to remain in a permanent state of over-employment, then the rise in prices will continue and accelerate and I do not give Australia much more than three or four years before inflation becomes uncontrollable. This

1. The only other action which could make much difference—removing the Means Test from old-age pensioners—does not, unfortunately, appear to be practicable immediately.

will mean that Australia will have to ask for outside intervention, and the granting of such help to an inflation-ridden country will involve political conditions far more unpleasant than anything yet contemplated. It will probably mean the appointment of an American Commissioner with powers of control over all expenditure, taxation and banking policy. The only other alternative is that some form of totalitarian state of our own may be set up, based on industrial conscription. Let us, while we still have time, take the very much milder medicine of converting over-employment back to ordinary full employment.

Where is the over-employment? In manufacture, in July 1950, Australia had 883,000 employed in factories, out of a labour force estimated at 3,400,000 (3,167,000 at the 1947 Census), or a proportion engaged in manufacture of 26 per cent. For U.S.A. the corresponding figures are 14.7 millions out of 65.7 millions or 22.4 per cent. Merely to reduce the Australian proportion to the American level would set free 125,000 workers, and as an ultimate objective we can double this figure. The surplus all appears to be in light industries, accompanied by a shortage of labour in heavy industries.

The numbers engaged in public administration (excluding the Forces, teachers and trading services) numbered 115,000 or 3.6 per cent of the labour force at the 1947 Census. Since that date the number has risen to nearly 170,000 or 5 per cent of the labour force. The pre-war figure was 2 per cent of the labour force and we should be able to get back to this figure, releasing 100,000 redundant public employees.

The object of currency appreciation is twofold. By reducing exporters' income it will cause them to reduce their consumption expenditure. But this effect may be comparatively small. The marginal income of exporters comprises large amounts which would in any case have been saved, or paid in taxation. The most important effect of appreciation is in making imports more abundant and thereby destroying employment in industries subject to import competition. Proposals for a wool tax or other special tax on exporters preserve the minor and lose the major effect of currency appreciation.

Some will contend that the balance of payments position precludes appreciation. The additional £200 million from wool in 1950-51 they regard as transitory, and base their estimates on 1949-50.

The balance of payments on current account was adverse in 1949-50 by £35 millions, but stocks of primary produce in Australia rose by £33 millions, and other stocks by £80 millions, much of the latter representing a non-recurring demand for imports. Allowing that wool prices may fall back, yet for most other Australian exports all prospects appear to be for a strong and sustained increase in demand on the world market.

If, however, we cannot take this particular medicine, then probably the next best way of reducing the demand for labour is by *increasing* wages. In the converse case, Lord Keynes contended that wage reductions were of little value in combating under-employment, because they were immediately followed by corresponding price-falls and therefore real wages remained stationary. This was the case, at any rate, either in a nearly closed economy like that of U.S.A., or in an economy like the British, where any reduction of wages is likely to be immediately followed by competing countries throughout the world. But Australia is an open economy, not big enough to exercise any substantial influence on wages elsewhere, and therefore a rise in money wages does mean some rise in real wages. At any rate, a marked rise in wages, if allowed to have its natural effect, should suffice to destroy considerable employment in industries subject to import competition. It will have a much lesser effect on employment in exporting industries.

If the stock of money is kept constant, an increase in money wages reduces the real purchasing power of this stock and causes some degree of financial tightness. This will certainly restrain speculative purchases of commodities, and indeed all business purchases for stock, and may thus have a further significant effect upon the demand for labour.

In addition, a rise in money wages will reduce the real value of all those elements in Government expenditure which are fixed in terms of money (interest payments) or only partially adjusted to current changes in prices (many Public Service salaries).

But in Public Finance, as well as the short period effect, we have a long period equilibrium to consider. In the *Economic Journal*, December, 1945, I showed from the experience of a number of countries reasons for believing that, once taxation exceeded 25 per cent of national income, it would set in motion a number of long-period inflationary forces which would continue in operation till money national income had been raised sufficiently to restore the equilibrium ratio. Experience since 1945[2] has certainly strengthened these conclusions.

In cases of this sort the long-period inflationary forces are principally the shortages of goods consequent upon the deterrent effect of taxation upon effort and enterprise. A lesser factor is the increase in demand owing to greater advertising expense accounts, and other "deductible expenses," another consequence of excessive taxation.

There are some signs that this principle is now recognized by the bureaucratic hierarchy in Canberra. In this year's *White Paper* on the National Income it is written—"Taxation revenue has roughly

2. See *Principles of Public Finance and Taxation*, Arthur Capper Moore Lecture to the Federal Institute of Accountants, by the present writer, pp. 17-18.

kept pace with the increase in the national income over the past three years, fluctuating around 25 per cent of national income." But this result is only obtained by the dubious expedient of deducting subsidies for making the reckoning. Without this deduction the ratio was 27 per cent in 1947-48 and 1948-49, and 25½ per cent in 1949-50.

However, it appears that those responsible for framing the Budget did have some idea of a long-period relationship between governmental expenditure and national income. Commonwealth tax revenue for 1950-51, omitting the Wool Deduction which is supposed to be non-recurring, is £574 million, and all taxation including State and Local about £655 million. On the 25 per cent ratio, this is bearable if factor-cost national income rises to £2,620 million. Money national income was £2,265 million in 1949-50 and wool prices (if they remain at their present level) will raise this by £200 million. Real product will rise 2½ per cent through increased working population plus (at the most hopeful) 3 or 4 per cent for increased product per man-hour, say 6 per cent in all, bringing the base up to £2,400 million at 1949-50 prices. The recent basic wage increase and its repercussions seem to be good for at least a 10 per cent increase in the general price level. It looks as if we can count on the 1950-51 national income being well above the £2,620 million mark anyway, even if wool prices fall again.

However, we would do well to make a somewhat deeper analysis and to look a little further ahead. The biggest uncertainty is about defence expenditure. Even under the most favourable circumstances, we had better assume that defence expenditure will stand at about 5 per cent of national income. We cannot in decency make it less when Britain is spending 10 per cent and America more. So our condition of long period equilibrium becomes then that non-defence expenditure must not exceed 20 per cent of national income.

Estimated Commonwealth expenditure from revenue for 1950-51, excluding business undertakings and capital works and services is £613 millions. Including State and Local Taxation this becomes £693 millions. Deducting defence expenditure (£133 millions) and non-recurring war gratuity payments (£31 millions) and addition to surplus in National Welfare Fund (£5 millions) we obtain a net figure of £524 million. But see how expenditure of Public Authorities has been increasing during recent years, as shown in the *White Paper* figures given on page 184.

A mere continuation of expansion at the present rate, without the addition of any new type of social service such as a medical scheme, will raise public expenditure by another £70 millions by 1952-53 to £594 millions, before making any allowance for capital works financed from revenue (£69 millions in 1950-51). On the 20

Expenditure—£ Million

	1945-46	1946-47	1947-48	1948-49	1949-50
Cash Social Service Benefits	68	80	87	103	116
Social Services in Kind, (Education, Health, etc.)	38	55	68	74	86
Administrative Costs ..	34	41	51	58	69
Total	140	176	206	235	271

per cent ratio, such taxation can only be obtained from a national income in 1952-53 of £3,315 millions if capital works continue to be financed out of revenue as they are at the present time, or £2,970 millions on the assumption that such works cease altogether. If real product continues to expand at 6 per cent per annum, the 1952-53 real income measured at 1949-50 prices will be £2,700 millions. We can only count on this 6 per cent per annum upward trend while we are overtaking war-time arrears. Once we "get back on to the line" the figure will fall to about 4 per cent, even if immigration continues at the present rate. Under inflationary conditions real product per man-hour may fail to rise at all and population increases will only raise real income to £2,440 millions (at 1949-50 prices). If money income, as we have shown, must be between £2,970 millions and £3,315 millions, this means that 1952-53 prices will have to be higher than those of 1949-50, by 10 per cent as a minimum, combining the two most favourable assumptions, and by as much as 36 per cent on the two less favourable assumptions.

However, even to obtain these results, it has been assumed that defence expenditure has been kept down to 5 per cent of national income and that all proposals for enlarging the scope of social services or for new capital works have been abandoned.

It is only on these precarious assumptions, therefore, that we can look forward to long-period budgetary equilibrium. Now, in conclusion, let us return to the short period problem; remembering the dual nature of taxation which has a short period deflationary and a long period inflationary effect. We are now paying the price, in reduced output, for the attempt by previous Budgets to use taxation as a short period deflationary instrument.

If we do not count on currency appreciation, we must look to a sharp *rise* in money wages as the principal instrument for obtaining short period equilibrium, with a consequent rise in some (not all) prices. The average Australian is now perfectly well aware that any wage increase must be followed by price increases (the greater degree of monopoly the more the increase will be passed on), and he views wage changes with a much greater detachment than he used to. Such a rise in prices and money wages is probably a necessary

condition for the change from "suppressed" to "open" inflation, and the ultimate restoration of equilibrium. This is the point made by the Economic Commission for Europe, to whom we are greatly indebted for their brilliant definition and analysis of these new concepts. "Suppressed inflation" is a general shortage of goods in relation to demand, which is not allowed to lead to its natural consequence of rising prices, but takes the form of rationing, price controls, allocations, priorities and all the rest. Up to 1939 the only example of suppressed inflation in peace-time was from U.S.S.R., and even there it was allowed to lapse into open inflation at periodic intervals. It looks as if even the best organized and most law-abiding countries, like Britain and the Netherlands, will find it hard to keep suppressed inflation going much longer in peace-time.

Australia's inflation, by comparison, is now fairly open. A really adequate once-for-all wage and price increase should suffice to restore equilibrium (subject to the two important conditions set out below). It is doubtful if the recent basic wage increase was sufficient, if the exchange rate is not to be appreciated; sufficient, that is, even to relieve the immediate over-employment. Considerably greater increases will be necessary to make provison for the fresh bouts of expenditure which the Commonwealth Treasury appears to be preparing for us.

One must add, that when we come to some wrong economic conclusion, we do so with remarkable unanimity. Almost everyone thinks that now is a suitable time for large public expenditure: there was similar unanimity about the equally erroneous decision to reduce public expenditure during the depression: likewise about the belief that world terms of trade would continue to move against primary production, and that therefore Australia should aim at reducing its exports and increasing its manufactures.

Our final supposition must be that those in authority will allow the wage increase to do its work, and to dis-employ labour in a number of the weaker industries and those serving less urgent demands. This means:

i. That the Commonwealth must strictly refrain from giving any additional protection to industries meeting import competition.

ii. That as labour becomes dis-employed from redundant manufacturing industries, all Public Authorities resist the clamour to provide "relief works."

This latter will not, after all, be difficult, for there will obviously be so many jobs for men to go to in building materials production, building, mining, forestry and farm and pastoral work, and there can be no serious unemployment problem for women.

COLIN CLARK.

Bureau of Industry, Brisbane.

PROGRESS REPORT ON THE TRADE CYCLE[1]

I

"If the theory which is here offered stands up to theoretical criticism, the next stage will be the concern of statisticians, econometrists, and (most of all) economic historians, who will have to see whether it does prove possible to make sense of the facts in the light of these hypotheses." This is from Hicks's disarming introduction. He calls his book a mere "progress report," and himself points to "some weak links" in the main argument. But he is not always so disarming. On page 2 he writes:—"Its constituent parts are all fairly familiar . . . Several writers have got very near to it, but none seems to have taken the final step. When that step is taken, we get something which may have a better claim to be regarded as *the* theory of the cycle than any which have preceded it."

The place to consider this claim is not at the beginning of a review. Assuming it to be true, one might still maintain that the significance of Hicks's latest contribution lies in something more than his theory of the trade cycle. After all, it is easier to find explanations for the existence of some sort of cycle than to be sure what exists to be explained. If there had been no trade cycle, it might have been wise to invent one in order to provide a challenge to the working out of a dynamic system of economics, capable of explaining why economic events—in the large or in the small—happen when they happen, and equally why they do not happen.

Unlike *Value and Capital,* this book is concerned exclusively with economic change in the large. The story runs in terms of the aggregates of income, consumption and investment; and even these aggregates are quickly reduced to one by tying consumption and investment rigidly to the past history of income. There are none of the subtle chains of substitution and complementarity, none of the complex interactions of prices, interest rates, and expectations, which might be expected from the author of *Value and Capital.* By way of compensation, we have not only a theory of equilibrium within time, but a determinate system of motion over time. In *Value and Capital,* it will be remembered, the dynamic elements consisted almost entirely in the impact of expectations about the future upon the temporary equilibrium of the present. The plans of entrepreneurs and consumers contemplated the events of many "weeks" extending into the future, but nothing actually happened except on the Monday of one week. Only in the very last two chapters did Hicks begin to redeem his earlier promise "to investigate what

1. *A Contribution to the Theory of the Trade Cycle.* By J. R. Hicks (Oxford University Press, 1950). Pp. vii + 201.

happens in later weeks, as the plans drawn up on the 'first Monday' proceed to unfold themselves." *A Contribution to the Theory of the Trade Cycle* is, therefore, a true sequel to *Value and Capital*, even if we find it difficult to recognize the old characters now that they have exchanged their sophisticated habits for simple black and white.

The new book also resembles the old in that Hicks has kept his mathematics to an Appendix. He gives in the text once more a brilliant display of mental gymnastics in the sense of Samuelson.[2] The argument moves from "period" to "period" in terms of a difference equation which relates current real income (or output) to the income of a series of earlier periods, within boundaries set by a full employment "ceiling" above and an autonomous investment "floor" below. The non-mathematical reader has every facility for following the structure and working of this equation in the text, but must take on trust the proposition that for certain defined values of the co-efficients (representing the relationships between consumption and income and between net investment and changes in income) such an equation will automatically generate the cycles whose properties are described. This has at least the advantage over some purely literary theories that the proposition is one which the non-mathematician can ask his mathematical friends to check; often no one can check rigorously a theory in which the down-turn is "ushered in" with confused verbal rumblings and the cause of the up-turn drowned amidst the general rejoicing. At the same time, the reader with even a little mathematics will not find it very difficult to work through the Appendix, where Hicks has gone to a good deal of trouble to set out the underlying difference equations in terms which involve little more than High School algebra.[3]

II

The most convenient point from which to approach Hicks's trade cycle theory is the familiar theory of cycles generated by the interaction of the Multiplier and the Acceleration Principle. Hicks accepts the basic structural relations embodied in this theory. He makes consumption in any "period" depend on a series of consumption

2. P. A. Samuelson: "The laborious literary working over of essentially simple mathematical concepts such as is characteristic of much of modern economic theory is not only unrewarding from the standpoint of advancing the science, but involves as well mental gymnastics of a peculiarly depraved type." (*Foundations of Economic Analysis*, p. 6). But there is much to be said on the other side. See the review articles by W. J. Baumol (*Economica*, May, 1949) and R. G. D. Allen (*Quarterly Journal of Economics*, February, 1949).

3. In his contribution to *A Survey of Contemporary Economics* (ed. Howard S. Ellis, 1948), Samuelson (under the heading "Dynamic Process Analysis") has given an elementary short introduction to the solution of difference equations. See also D. H. Robertson's comments in his review article, "A Revolutionist's Handbook" (*Quarterly Journal of Economics*, February, 1950). Other useful sources are A. Smithies in "Equilibrium Analysis and Process Analysis," *Econometrica*, 1942; Appendix B to *Foundations of Economic Analysis*—for a much more advanced approach; and M. G. Kendall, *The Advanced Theory of Statistics*, Vol. II, Chapters 29 and 30, especially pp. 399-423.

co-efficients relating to a series of income levels in earlier periods, thus "generalizing" the Multiplier to cover any variety of time lags.[4] Similarly, a good deal of the rigidity is taken out of the Acceleration Principle by making investment depend on a series of investment co-efficients relating to a series of increases in income between pairs of earlier periods.[5] The exposition of these relationships is beautifully done; but it does not appear in the end that complex lagging is likely to make much difference to the general character of the resulting movements of income.

The picture drawn by Samuelson[6] for the case of a single-period lag of consumption and investment is found to hold good except in some rather unlikely circumstances. Normally, for a given value of the consumption co-efficients, the system will converge to its original equilibrium only if the investment co-efficients are very small; for larger investment co-efficients, first damped and then anti-damped cycles will develop; for very large co-efficients income will rise exponentially without limit. A rise in the value of the consumption co-efficients will diminish the range of values of the investment co-efficients for which cycles will be produced, and increase the range for which at one extreme convergence, and at the other exponential growth, will be engendered. But the numerical values leading to these results will be changed by the introduction of lags, normally in the direction of a greater tendency towards stability.

Hicks rejects a simple explanation in these terms; indeed it is doubtful if any economist has seriously lent his support to such an explanation (certainly not Samuelson). The explicit grounds of

4. Hicks points out that, if the true relationship is lagged, least-squares regression ignoring time lags is likely to over-estimate the marginal propensity to save, and under-estimate the marginal propensity to consume. This, Hicks suggests, is what went wrong with the American post-war employment forecasts (pp. 29-35), and he therefore assumes that the true figures correspond more closely with the long-term Kuznets estimates (giving a marginal and average propensity to consume in the vicinity of 0.9) than with the inter-war "cyclically-biassed" estimates which give a marginal propensity of about 0.5 in relation to net national income. He quotes Modigliani in general support of this view (Hicks, p. vi; F. Modigliani, Vol. XI, *Studies in Income and Wealth*, National Bureau of Economic Research), and says that Modigliani's hypothesis is "practically very similar." But in fact the inter-war regression points do *not* show the oval movement of Hicks's diagrams, nor can this be accounted for (as Hicks suggests on p. 35) by the further hypothesis that the true regression line was shifting during the period, without abandoning the attempt to derive a statistical consumption function (in relation to income) altogether. Both Modigliani and J. J. Duesenbury (*Income, Consumption, and the Theory of Consumer Behaviour*, Harvard University Press, 1948, and in *Income, Employment, and Public Policy*, Norton and Co., 1948) explain the observed facts by giving a privileged position to the income of one year—the last peak. Thus their time-lag is not constant, as Hicks's theory requires; and *within a cycle*—but not as between cycles—their estimates do not differ greatly from the older "biassed" estimates, when allowance is made for corporate savings. It is of course the intra-cycle marginal propensities which are relevant for Hicks's purposes in calculating the duration, damping factor, etc., of his cycle.

5. All variables are measured in "real" terms, and income is synonymous with output. The definition of Hicks's "period" (p. 53) is a matter of some complexity, which cannot be considered in this review, but which I hope to discuss elsewhere.

6. *Review of Economic Statistics*, May, 1939; also in Hansen, *Fiscal Policy and Business Cycles;* and reprinted in *Readings in Business Cycle Theory*. Samuelson's assumption of a one-period lag for consumption, and no lag for investment, is equivalent to a one-period lag for both, when allowance is made for the fact that Samuelson relates investment to consumption, whereas Hicks relates it to income. Samuelson's $\alpha\beta$ is the equivalent of Hicks's v, and his α the equivalent of Hicks's c.

Hicks's rejection are that the postulated values of the co-efficients, if they produce cycles at all, can only produce cycles which are damped (and therefore peter out) or anti-damped (and therefore explode)—unless they happened to be at the precise point necessary to ensure zero damping. "It would be an extraordinary thing if we lived in a world which had got stuck for two centuries . . . at this precise value!" He also rejects the hypothesis that a system of damped cycles might be kept alive by repeated erratic shocks,[7] on the grounds that unless the cycles are so slightly damped as to approximate to the absurdity of zero damping the systematic cyclical component will in practice be indistinguishable, and "the current level of output will be mainly a matter of what the recent shocks have happened to be—that is to say, it will be mainly a matter of chance."

From these dilemmas Hicks escapes by adopting a variant of what Samuelson calls the "billiard table" theory.[8] He postulates values of the co-efficients lying anywhere within the wide range of plausible possibilities which will lead either to anti-damped cycles or exponential growth, and relies on the "full employment ceiling" to restrict the rate of growth, and so (through the Acceleration Principle) to provoke a premature downturn. On the downgrade, he relies on the fact that beyond a certain point the Acceleration Principle will be transformed, indeed virtually suspended, because gross investment (except in inventories) cannot fall below zero. Thus while an increase in output will induce a large "hump" of net investment, a decrease will induce merely a shallow "trough" of disinvestment, which will make up in duration (while excess capacity remains) for what it lacks in depth. The upturn will occur when excess capacity has been "worked off" by depreciation, and the Acceleration Principle resumes its sway.

Hicks points out that it is not necessary that the cycle should hit the ceiling on every upswing, or on any upswing, since an anti-damped "free" system will merely rise in amplitude as cycle succeeds cycle, and if the Acceleration Principle is suspended in the downswing each cycle will in effect be the first of a series.[9] On the other hand, he believes that it is not possible for a damped system to perpetuate itself in a similar way: "The change in the character of the accelerator always has a damping effect; it causes the trough to be shallower than it would have been otherwise. Thus it can prevent explosive cycles from running away, but it cannot prevent a damped cycle from damping itself out."[10]

7. Ragnar Frisch, "Propagation Problems and Impulse Problems," in *Economic Essays in Honour of Gustav Cassel*, 1933. M. G. Kendall, *op. cit.*
8. Samuelson, *Foundations*, p. 340.
9. Duesenbury, in his review of Hicks (*Quarterly Journal of Economics*, August, 1950) argues this point, evidently without noticing that Hicks has anticipated him.
10. p. 107. The latter part of this proposition will be contested in Part V below.

So far the fluctuations described have involved the movement of income within limits set by the "ceiling" of full employment and the "floor" of something like zero gross investment—the latter implying zero or negative income. Finally, Hicks converts the cycles into fluctuations about a *moving equilibrium*, with the "ceiling" as before but the floor greatly elevated by the introduction of the concept of "autonomous investment," which is independent of changes in output.[11] The moving equilibrium about which the fluctuations occur, and which corresponds with zero in the pure Multiplier-Acceleration Principle cycles, is Hicks's Upper Equilbrium Line. The "floor" is his Lower Equilibrium Line. The Upper Line is defined as the course which income would follow if the level of autonomous investment had always been moving in accordance with some given law, and the economic system had always been perfectly adjusted to this movement, without disturbances of any kind. The Lower Line is defined similarly, but with induced investment assumed to be zero. For his standard case, Hicks postulates the only law for the movement of autonomous investment which is consistent with the uniformly progressive economy of Cassel or Harrod: namely, autonomous investment rising geometrically, by a constant percentage each period.

Clearly, the Lower Equilibrium Line will be governed by applying the Multiplier to the progressive levels of autonomous investment, and the Line will itself slope upwards at the same geometric rate as autonomous investment. The Upper Equilibrium Line is similarly determined by a Super-Multiplier, which allows both for autonomous investment and for the investment which will be induced (as a constant proportion both of the level of income and of its equi-proportional increases) in the course of a steady geometric advance.[12] The Upper Line is of course an equilibrium of instability, unless the values of the co-efficients are in the narrow range which

11. This concept will be further considered in Part IV below.

12. Hicks suggests that his moving equilibrium is determined by the equality of saving and investment, presumably as an *ex ante* equilibrium condition rather than the *ex post* definitional identity (pp. 57-59). But in the presence of time lags this does not seem to be possible. In Hicks's system, investment *ex ante* always equals investment *ex post*, whereas if income is rising, and *ex ante* saving is determined by previous income levels, saving *ex post* must always exceed saving *ex ante*; and since by definition saving equals investment *ex post*, the *ex ante* magnitudes can never be equal. In fact, the *ex ante* equality of saving and investment can define a moving equilibrium only if it is a stationary one, unless *ex ante* saving depends only on current income; and it can define a unique moving equilibrium only if neither investment nor saving (consumption) are subject to time-lags. If we make this last assumption, and employ Hicks's symbols, then the formula for the Lower Equilibrium Line becomes the ordinary "simultaneous multiplier" relationship—

$$Y_n = \frac{1}{1-c} A_o (1+g)^n \quad .. \quad .. \quad .. \quad (1)$$

To calculate the Upper Equilibrium Line, the value of investment I_n induced in the steady advance must be included alongside autonomous investment $A_o (1+g)^n$. According to the acceleration principle, $I_n = v (Y_n - Y_{n-1})$, which for a geometric progression of income reduces to $I = \frac{vg}{1+g} Y_n$. Adding this to the autonomous investment in (1), we obtain the formula for the Super-Multiplier which determines the Upper Equilibrium Line—

leads to convergence rather than cyclical or exponential deviations from the moving equilibrium path. The Lower Line is always an unstable equilibrium so far as upward deviations are concerned; but if the Acceleration Principle is suspended on the downgrade it offers a stable resistance to deviations below its level (or rather sufficiently below its level to exhaust the scope for disinvestment in any one period).

Accordingly, Hicks's account of the trade cycle (in its purest form) may be outlined very briefly and roughly as follows:—

(a) There is only one (temporarily) stable resting place for the economic system: namely, when income is at or about the Lower Equilibrium Line set by autonomous investment and the Multiplier, and excess capacity continues to exist. The values of the investment and consumption co-efficients are such that all other positions are unstable, in the sense that from any initial position income will tend to move along a path which is either an anti-damped cyclical or an exponential deviation from the Upper Equilibrium Line.

(b) Starting in the depth of a depression, the upswing will begin when the gradual disappearance of excess capacity converts the Lower Equilibrium Line into a position of (upward) instability. The disappearance of excess capacity will be hastened by the assumed upward trend of autonomous investment.

(c) The upward path will be governed as a deviation from the Upper Equilibrium Line by the interaction of the Multiplier and the Acceleration Principle, in accordance with the values of the co-efficients.

(d) The boom will turn over into a downswing either because it has "worked itself out" (the values of the co-efficients

---

$$Y = \frac{1}{1-c}\left[A_0(1+g)^n + \frac{vg}{1+g}Y_a\right]$$

$$= \frac{1}{1-c-\frac{vg}{1+g}}A_0(1+g)^n \ldots (2)$$

This formula is of the same *form* as that given by Hicks in equation 18*A* on page 184, but the latter is of course adjusted for time-lags (the effect of which is constant in a geometric progression), thus shifting the Equilibrium Line bodily to the right (or downwards). Once the time-lags are introduced, saving the investment *ex ante* can no longer be equal, but the proportional difference between them in a geometric progression is constant, and *ex post* they are not only equal but a constant proportion of income. Essentially, however, Hicks's moving equilibria appear to be merely mathematical expedients for the solution of the difference equations, and hence presumably fall into the class of moving equilibria mentioned by Samuelson in footnote 23, p. 325, *Foundations*. Perhaps they can also be interpreted in terms of Samuelson's boy with the stone at the end of a piece of string: if he has always been walking at a constantly accelerating pace, the stone will hang steady, but lagging somewhat from the perpendicular; if he stumbles, it will swing like a pendulum even after his regular progression has been resumed. Similar concepts of moving equilibrium were first employed (as far as I know) by R. Goodwin, in *Review of Economic Statistics*, May, 1946.

determine a cyclical path which does not reach the "ceiling"), or because it has been "killed" by the approach of full employment (which forcibly reduces the rate of increase of income and therefore, at least after a time, brings the Acceleration Principle into play as a depressive factor).

(e) The downward path will be governed in the first instance by the interaction of the Multiplier and the Acceleration Principle, but beyond a certain point the operation of the Acceleration Principle will be limited by the impossibility of disinvesting in fixed capital at a faster rate than its normal deterioration.

(f) Beyond this point, income will converge downwards towards its temporarily stable resting place near the Lower Equilibrium Line, where it will remain until replacement needs accumulate and the process begins all over again.

Hicks goes on to consider the variations in this cyclical pattern which may be introduced by—

(a) a less rigid interpretation of the "ceiling," allowing both for a gradually restrictive effect of bottlenecks as the ceiling is approached, and for changes in relative price-levels which may prolong the time for which the boom can remain on or near the ceiling by raising the value of investment in terms of consumption goods;

(b) more or less irregular fluctuations in autonomous investment. which may cause "humps" or "troughs" in the Upper and Lower Equilibrium Lines, and thus upset the regular periodicity of the cycles;

(c) monetary factors, which may put a gradual brake on the upswing if the monetary system is inelastic; may "kill" a boom by credit restriction before it has died either of natural causes or of concussion; will probably (in the form of a liquidity crisis) greatly intensify and speed up the downswing once it has begun for other reasons; may intensify and prolong the trough of the depression, especially if the downswing reveals deep-seated weaknesses in the financial structure; or alternatively may be used consciously as a stabilizing force to reduce, but not eliminate, the "real" cycle.

His general conclusion is that, by and large, these and other factors are mere complicating or subsidiary elements, which (except for the importance of the liquidity crisis in speeding the downswing) leave the previous account of the cycle substantially intact as an explanation of the "family likeness," the "underlying

repetitiveness," of historical trade cycles, while helping to explain their "superficial irregularities."

III

The foregoing outline does much less than justice to Hicks's work. Nevertheless, it is on the basis of some such rough summary that we should, I think, judge whether this is a *new* theory of the trade cycle, or essentially a refinement upon an old one.

To begin with it must freely be admitted that, in the fields which he has covered, Hicks has achieved a degree of ingenuity, rigour, and elaboration which surpasses all possible competition. But it seems to me that in Harrod's trade cycle theory we have one which bears more than a family likeness to that of Hicks.

Hicks, of course, generously acknowledges his debt to Harrod. His first statement of his theory was in the course of reviewing Harrod's 1948 Lectures, *Towards a Dynamic Economics*.[13] He writes now that "it was not till I read Mr. Harrod's book that I realized what it was that I had overlooked . . . I could kick myself for not having seen it before." But his acknowledgments—with the exception of one footnote (p. 99)—are all to Harrod's 1948 work or to his *Economic Journal* article of March, 1939. When Harrod came to write these works on economic dynamics, he was not trying to construct a theory of the trade cycle; he had already done that, in his 1936 Essay, *The Trade Cycle*, and done it against the background of a moving equilibrium in a progressive economy. He was going on to explore further the properties of this moving equilibrium, especially in its secular aspects, although in passing he referred tentatively to its cyclical implications as well.[14] Harrod's famous equation for the "warranted rate of growth" was not, I suggest, a "behaviour" equation at all—it was intended to say nothing at all about how people act or re-act in given circumstances, although sometimes his language was a little ambiguous. When he wrote $G_w C_r = s$, Harrod was saying, in effect: "The condition of moving equilibrium in a progressive economy is that at all times the designed capacity of its capital stock should be in perfect adjustment with the output demands which people would make upon it if they were saving no more than they would wish to save out of their current incomes; if each unit of the capital stock has a constant capacity $\frac{1}{C_r}$ and if people wish to save a constant proportion s of their incomes, then this equilibrium requires that at all times the volume of output should be growing at a constant rate $G_w = \frac{s}{C_r}$." This proposition would

13. *Economica*, May, 1949.
14. *Towards a Dynamic Economics*, pp. 89-91, pp. 115-117.

be as true in a socialist as in a capitalist economy, and has nothing whatever to do with lagged reactions or dynamic sequences. It is a condition which all such reactions and sequences must satisfy if the economy is not to suffer from what Benedetto Croce called "economic remorse," and is in this sense the conceptual counterpart of the "maximum" conditions of economic statics.

Harrod was concerned to point out that behaviour reactions were not in practice likely to lead to the realization of the moving equilibrium condition, and that if the latter condition implied a rate of growth greater than that consistent with the "natural" rate determined by population growth, etc., it could not in any case be realized: hence the economy would suffer from cyclical and secular forms of "economic remorse." But he did not set out his behaviour equations in symbolic terms, nor indeed completely specify them in any terms, although he said that "it would be great luck" if they "hit precisely on the value G_w."[15] If he had done so, he might have arrived at something equivalent to the Hicksian system—as indeed he had in 1936.

For if we turn back to Harrod's *The Trade Cycle* we find cyclical fluctuations which are essentially deviations from an unstable moving equilibrium defined in terms of the Multiplier, the Acceleration Principle, and Autonomous Investment; an upswing and a downswing governed by these same factors, with the Acceleration Principle modified in the downswing by the fact that gross investment in fixed capital cannot be negative; a downturn which may occur either because expansion is no longer profitable in terms of the Multiplier and the Acceleration Principle, or because the boom has hit the full employment "ceiling"; and a stable lower equilibrium ("bottom"), set by Autonomous Investment and the Multiplier, followed inevitably by a revival as excess capacity gives way to the accumulation of replacement needs.[16]

There is no doubt that Hicks has cleared up a number of woolly points in the exposition of this theory, and re-formulated it in a manner which adds immensely to understanding.[17] At the same time, he has left out a number of complications to which Harrod attached some importance. But are not the two theories essentially one theory—a theory tidied up, simplified, translated into mathematics and back into English again? This is not an issue of real importance. Yet it may eventually turn out to be important to

15. p. 86.
16. See especially pp. 53-58, 88-100, 160-167.
17. For instance, it was never clear in Harrod's essay that a constant (linear) set of consumption and investment co-efficients could produce a cyclical downturn; it always depended on non-linear relationships. Similarly, Harrod believed that his system explained the (alleged) sharpness of the downswing as compared with the upswing—a belief which Hicks can now show to have been an optical illusion (Harrod, pp. 97-99; Hicks, pp. 115-118). Such differences as there are appear to be typically those which one would expect as between a literary and a mathematical formulation.

recognize that Harrod's later work is not necessarily an unsuccessful attempt to reach the goal which Hicks has set himself, but perhaps a step towards a further goal which is as yet only dimly perceived.

Hicks's procedure was, first, to convert Harrod's equilibrium condition into a behaviour equation, by introducing time-lags. He found that in this form there was no unique moving equilibrium defined, from which cyclical deviations could be measured, but a series of possible geometric rates of growth corresponding with each of the real and positive roots of the new equation (one of them being zero).[18] He therefore re-defined a unique moving equilibrium by assuming a volume of autonomous investment growing in accordance with some *arbitrary* law, which in the standard case he took to be an arbitrary geometric progression. Now this seems to be the weakest point of Hicks's theory. It is a point already present in Harrod, who was prepared to admit some autonomous investment into his equation for the "warranted rate of growth," in the form of certain fractions of income; by changing these fractions, Harrod could in principle make the warranted rate of growth anything he liked. But Harrod emphasized that the fractions were not really arbitrary, but would disappear in the long run except to the extent that inventions were "labour-saving" or that the rate of interest was falling,[19] whereas Hicks never really examines the determination of his autonomous investment at all.

Is it true that, alongside an arbitrary volume of autonomous investment, there can be a volume of induced investment calculated in such a way as to cater for the whole of the requirements of the economy for capital capacity? Does this imply that all autonomous investment is of a non-productive character, since it must not be allowed to compete with induced investment in filling capital needs?

IV

Hicks is himself uneasy about the relationship between investment (autonomous and induced) and the growth of capital capacity,

18. p. 183.

19. The equivalent of Hick's autonomous investment is the sum of the fractions k and d. (*Towards a Dynamic Economics*, pp. 79-80, and p. 96.) The fraction k refers to "long range investment" on the assumption that inventions are neutral: "in the long run k must disappear, for in the long run all capital outlay is justified by the use to which it is put" (p. 79). The fraction d refers to investment of a "deepening" character which may result from "labour-saving" technical innovations or a falling rate of interest. Since both k and d are expressed as fractions of income, and operate so as to reduce the warranted rate of growth (G_w C_r = s-k-d), the warranted rate can be made as high or as low as you please by altering the fractions, but the total of autonomous investment will always necessarily rise in geometric progression (at the warranted rate) in Harrod's moving equilibrium. Further, if both the absolute level of autonomous investment and its fraction of income were specified, as they could be, the warranted rate of growth of income and its absolute level would both clearly be determinate from Harrod's equation. This manner of arbitrary specification would not differ in the upshot from Hicks's procedure, which is to specify the rate of growth of autonomous investment and its absolute level, and from these determine the moving equilibrium of income. In this light, it is difficult to understand Hicks's statement in the footnote on p. 59 that "Mr. Harrod's failure to perceive these consequences [of autonomous investment] is . . . responsible for most of the weaker points in his otherwise very suggestive analysis."

but seems to think that this is mainly a matter of the determination of the "full employment" ceiling, and unlikely to affect the course of actual output below the ceiling. However, he concludes—"This is one of the cases where the theory I am offering poses questions without answering them."[20]

It seems clear that we need something more than Hicks's simple dichotomy between investment induced by changes in output, and autonomous investment which is independent of changes in output.[21] Domar and Duesenbury both argue, in effect, that autonomous investment (assumed to be productive) must be treated as a deduction from induced investment, since to the extent that capital capacity is autonomously provided there is so much the less scope for its provision to be induced.[22] If this were true, Hicks would be forced to neglect autonomous investment altogether, and regard all investment as induced—which would mean that his moving equilibrium would become a multiple one. But this view is also too simple. Autonomous investment to exploit the invention of the motor car no doubt inhibited induced investment in buggies; but to the extent that it may have meant a "deepening" of the capital structure, or premature abandonment of buggy factories, it was an independent and additional source of investment. On the other hand, there seems no reason why we should not allow investment to be "induced," either by changes in output or in relation to the level of output, even if it is investment to exploit a new invention, on the basis that some investment of this kind will only occur if economic conditions are favourable. A temporal distinction should also be made between investment as a source of demand for output, which it is from the moment it begins to be undertaken, and investment as a source of addition to the capital stock, which it becomes only when it emerges in finished capacity ready for use. Finally, we must allow that all investment—if it is not armaments, Pyramids, cathedrals, dirges, or digging holes in the ground—presumably raises the "ceiling" when it is completed, irrespective of whether it is "induced" or "autonomous," and irrespective of whether it is of a "widening" or "deepening" character.

The simplest amendment of the Hicksian system which would

20. Footnote, p. 123. See also footnote 2, p. 39.

21. Hicks's definition of autonomous investment is given on p. 59: "It is not necessary to assume that all investment is induced investment. While there can be little doubt that quite a large proportion of the net investment which goes on in normal conditions has been called forth, directly or indirectly, by past changes in the level of output, there is certainly some investment for which this effect is so small as to be insignificant. Public investment, investment which occurs in direct response to inventions, and much of the 'long-range' investment (as Mr. Harrod calls it) which is only expected to pay for itself over a long period, all of these can be regarded as Autonomous Investment for our purposes. Naturally the distinction is not in practice a sharp one; but it is sufficiently clearly marked to serve for the articulation of a theory."

22. E. D. Domar, in *Econometrica*, 1946; *American Economic Review*, March, 1947; *Income, Employment, and Public Policy*, 1948 (esp. p. 47). J. J. Duesenbury, in *Quarterly Journal of Economics*, August, 1950.

begin to take account of these complications would be to count as autonomous investment only such investment as is entirely non-productive or devoted (through innovations or changes in the rate of interest) to the "deepening" of capital; and to assume that all other investment occurring autonomously (e.g. to exploit new products without calling for more capital per unit of output) can be treated as a net deduction from induced investment, and therefore counted for Hicks's purposes as induced investment. This would not, however, do justice to the full complexity of the inter-relationships; in particular, it would not recognize the fact that one act of investment (whether induced or autonomous) does not begin to compete with other potential acts of investment until the resulting capacity is ready for use. After all, it was this time-lag between the undertaking of investment and the installation of capacity which was primarily responsible for the trade cycle in the concluding chapters of *Value and Capital*.[23] Hicks is himself his severest critic on this point. Similarly, the Hicks of 1939 was prepared to emphasize that "the boom itself may affect the rate of innovation; in the hot-house atmosphere of boom optimism, innovations may be made which would otherwise never have been made at all, and innovations may be introduced at an earlier date than that at which they would otherwise have been tried out."

No doubt most of these and other complications could be incorporated somehow in the Hicksian scheme, since the main factors affecting investment might be reduced to (a) functions of the rate of change of income, (b) functions of the level of income and (c) autonomous factors. Even the eventual depressive influence of the installation of capacity would be a function of income or its rate of change at an earlier time, if the investment giving rise to the capacity were itself such a function; similarly a portion of autonomous investment (devoted to "widening") could be allowed to have a stimulating effect in the present and an inhibiting effect in the future. But when all this has been done, the system would be much more complex, and it is impossible to say off-hand whether it would affect the main lines of the picture. At least, it seems necessary to conclude that the simple assumption of a level of autonomous investment, more or less regularly progressing, and not mutually related with the determination of the remainder of investment, must definitely be abandoned.

V

After proposing the necessity for these complications, it is a relief to be able to turn round and suggest one direction in which Hicks has made things unnecessarily difficult for himself. It will be

23. See especially p. 287 and pp. 295-6.

remembered that he rejects the "tempting" supposition that, once the "transformation of the accelerator" on the downswing has been allowed for, the way would be open for the cycle to perpetuate itself even if the basic cyclical mechanism were damped.[24] This rejection is surely unnecessary. It is true that the suspension of the Acceleration Principle always "causes the trough to be shallower than it would have been otherwise." But what does this matter if each and every cycle is the first of its kind, beginning from a position of temporary stability near the Lower Equilibrium Line? The only possible threat to the perpetuation of the cycle in these circumstances could come if the cyclical mechanism were so highly damped that the *first* downswing was insufficiently pronounced to bring about the "transformation of the accelerator"; and this would probably still leave room for quite a high degree of damping. If this is the case, Hicks's co-efficients can occupy a considerably wider range of values and still account for the cycle.

From this point, it is interesting to go on and speculate as to whether Hicks's rejection of the "erratic shocks" theory, on the ground that with damped cycles the current level of output would become "mainly a matter of chance."[25] is not also too hasty. He bases this rejection on a calculation made in the Appendix,[26] in which he considers the "elementary" case of single period lags, and assumes consumption and investment co-efficients which would give a cycle of duration 20 periods with a damping factor of 0.87. He shows that in these circumstances the maximum value of the serial correlation co-efficients, assuming a random series of erratic shocks, should not exceed 0.05 after the twentieth period, and so "the correlation between 'corresponding' terms of successive cycles is quite small . . . The periodic component is so swamped by the random component that it would only become distinguishable after careful investigation."

However, Kendall points out[27] that "if the section of the series is a comparatively short one, covering say, four or five oscillations, the oscillations will not have time to get very much out of step and the serial correlations will be systematically larger than one would expect for an infinite series." He quotes an example, for an autoregressive equation similar to that of Hicks, in which by the thirtieth period the theoretical correlation should be less than 0.002, whereas in fact it is 0.27. I therefore tried the rough experiment of "feeding" a seres of random shocks into Hicks's equation, using for the purposes terms 361 to 460 of the rectangular random series given by Kendall on p. 383. The original equation, left to itself,

24. p. 107.
25. p. 91.
26. p. 193.
27. M. G. Kendall, *The Advanced Theory of Statistics*, Vol. II, p. 412.

damped itself out to all perception after performing one cycle; but with the random element it performed in the hundred observations five well-marked cycles, with a readily distinguishable duration of about 20 periods, and a general appearance strongly reminiscent of the typical economic time-series.

These considerations would not affect the issue if we had to envisage an infinite series of cycles. But without assuming that each cycle is a unit of its own, marked off by the "transformation of the accelerator," we could still reasonably suppose that the occurrence of major wars and other fundamental breaks in the continuity of the economic system divides the trade cycle into relatively small groups of oscillations. A cyclical mechanism capable of perpetuating itself over such a group is all that is needed to explain the trade cycle, even if there is reason to believe that in the very long run it would "peter out." Indeed, on this basis, there would be no need to rule out a cyclical mechanism which was anti-damped, provided that something of the character of a major war could be relied upon to put an end to one series of cycles and start a new one before the amplitude of the movement had reached "explosive" proportions.

In other words, while agreeing with Hicks that "it would be an extraordinary thing if we lived in a world which had got stuck for two centuries with co-efficients which were always equal to the precise value necessary for zero damping," we might also urge that it would be an extraordinary thing if the co-efficients had not shifted from time to time over a very wide range of values, so that the result was a cyclical mechanism sometimes damped, sometimes explosive and no doubt sometimes no "free" cyclical mechanism at all, but an exponentially-explosive mechanism, calling the Hicksian "ceiling" into play. There seems to be no reason to confine ourselves to any one hypothesis.

We might go further than this. Suppose the mechanism to be of the stable, convergent, variety, which left to itself would neither move cyclically nor hit the "ceiling." Subject to irregular disturbances, it could still perform on these the operations of a (weighted) moving average, and so give rise to cycles of the Slutsky variety.[28] It is extremely doubtful whether the evidence for regularity and periodicity in the history of trade cycles is sufficiently convincing to exclude even this simple hypothesis.

VI

If this last hypothesis could be accepted, it would evidently have a good claim to be regarded as *the* theory of the trade cycle. For it would necessarily comprehend all other theories, each of them

28. E. Slutsky, in *Econometrica*, 1937.

implying merely a slightly different set of weights for the moving average. Of course, in itself it would be a completely useless theory, and we should still need to know the answers to all the old controversies about the working of the economic mechanism before we could know what to do in order to prevent or reduce cyclical fluctuations. In principle, nevertheless, it seems right to suppose that *the* theory of the trade cycle should be as general as possible, so as to provide a framework within which all conceivable elements influencing the birth and death of booms and slumps could be fitted. In this sense, first place is probably held by Kaldor's theory,[29] which provides a framework of great elegance, convenience, and flexibility. Certainly everything Hicks has now said—both in the main part of the book and in the chapters on the monetary factor—could easily be fitted into Kaldor's system, alongside everything that has been said by Keynes, Hawtrey, Schumpeter, Hansen, Hayek, and many others. Moreover, all of these theories are illuminated within the Kaldor model.

But it is not this kind of test which Hicks would wish to see applied to his theory. His aim is closer to Schumpeter's ideal theoretical model. "There is no sense in looking for a single reason why men die, for there is obviously a great variety of reasons. But there is both sense and interest in the question whether and why death would come about in the absence of all lesions, by virtue of the working of the human organism or the cells of which it consists. This is the truly fascinating problem, although it hardly ever enters into the ordinary mental operations of medical practice, which are always concerned with one or another of the innumerable patterns of the actual occurrence of death."[30]

I suspect that the search for *the* theory of the trade cycle, in Schumpeter's sense, is the economist's equivalent of the search for the elixir of life or the philosopher's stone. Each hopeless effort adds its quota to knowledge and understanding of some of the forces operating in the economic organism and its cells.[31] If the truth of trade cycle theory is many, policy directed against the trade cycle must reckon not with one, but with all its theories. But is it not time to turn from alchemy to chemistry—to forget the glittering prize of achieving the theory of the trade cycle, and concentrate upon a systematic and pedestrian attempt to discover how the economy works and grows in its parts and as a whole?

T. W. SWAN.

Australian National University, Canberra.

29. N. Kaldor, "A Model of the Trade Cycle," *Economic Journal*, March, 1940.
30. J. A. Schumpeter, *Business Cycles*, 1939, Vol. I, p. 34.
31. "This does appear to be a case in which, in the deathless words of the Dodo, everybody has won and all must have prizes." D. H. Robertson, *A Study of Industrial Fluctuation*, 1915, p. 1.

INVESTMENT AND IMMIGRATION IN AUSTRALIA IN THE 1950's: SOME PROBLEMS OF THEORY*

I. Introductory.
II. The problem of adjustment.
III. The problem of stability.
IV. The problem of progress.

I

I propose to discuss some tricky and rather neglected questions in dynamic theory that arise from large-scale immigration. To give them an air of practical relevance I shall suppose that it is settled policy here that Australia's population should increase very rapidly during the coming ten years, and discuss them as if they were problems underlying the formulation of economic policy here in Australia during the next ten years. For the purposes of argument I shall suppose throughout that the rate of population increase will be about 3 per cent annually, and that the age structure is constant or irrelevant.

There are two points about growth at such a speed. First, it is unprecedented in any modern highly developed nation. So far as I know it has only been matched this century by Canada before the first World War. It is reasonable to expect, therefore, that it will raise in acute form a number of problems to which we normally pay little attention. In particular, it would seem likely to affect the rate of change of the standard of living. Second, it has come suddenly. Australia's population has not been increasing fast for twenty years. Therefore we should expect that there will be a short-term problem of adjusting the economy to it.

I shall take these problems in reverse order, and deal with the adjustment problem first. This I shall subdivide into two parts. In the first I shall deal with the changes in the pattern of production and distribution on the assumption that we can ignore all inflationary complications. In the second I shall discuss whether these complications very much alter the underlying—as it were "real"—adjustment problem. Last, I shall tackle the likely effects of large scale migration on the progress of the standard of living once the short term adjustments to the *change* in the rate of migration have been cleared out of the way.

* A paper read to the Canberra Economic Society on 22 May, 1950. The reader is asked to bear with the somewhat personal tone and the very cavalier treatment of theoretical complexities which any attempt to fit the discussion of so vast a subject in a short talk entails. It is published only in the hope that other writers will deal adequately with the questions here skated over. Perhaps it should be added that, though the writer was a visiting official, the views expressed are of course purely personal.

Throughout my intention is to deal with matters of broad principle. I shall not bother about precise statistical or verbal accuracy or pretend that the sweeping generalizations about the behaviour of the economy that I shall have to make are exactly right. Any assertions about the realities of the Australian economic system are made only incidentally to the discussion of principles. I leave their application to the current situation entirely to the reader.

II

During the last twenty years the population of Australia has been rising on the average rather less than 1 per cent per annum. I shall for the present suppose it has been constant. Also during this period we have had a major slump; a war; and a very complex period of post-war reconstruction. I shall start by ignoring all the consequences of these disequilibria and suppose that we have enjoyed a period of perfect stability and equilibrium. I shall also ignore the facts that there have been changes in taste, in attitudes to work, and that there have been inventions in industry and other changes in productivity unassociated with capital accumulation. Having turned a blind eye to all these aspects of reality we can confidently start theorizing. The blinkers will come off later on.

For argument's sake also I assume that during the last twenty years or so we have been investing net about 12 per cent of our national product, and that the national capital of reproducible assets, to use Kuznets' term, is now some four times the national income.

This accumulation of capital has been giving rise to a steady increase in real income and, on the assumptions just made, has been the *only* factor increasing income. (It is possible to conceive curious circumstances in which it might not have been doing so: but I shall simply assume that our economy is not so abnormal as all that.) This annual increase in real income has been taking the form of an increased flow of consumption goods to the extent of 88 per cent, the remainder being additional investment. This consumption has consisted of consumption goods that were regarded as less essential than those consumed before—and the capital has consisted of instruments permitting directly or indirectly this production of hitherto extra-marginal consumption goods. Assuming as usual that the marginal utility of income is declining, each annual increment in the capital stock has, therefore, apart from questions of the changing distribution of income, led to the production or enjoyment, £ for £, of a smaller quantum of utility. Having, let us say, provided for basic needs of housing and essential food and clothing for warmth during the early part of the century, later net accumulation has passed

on to provide for motor cars, wireless sets, washing machines, and brilliantly coloured ties. It may also have provided for the greater mechanization of industries serving needs that are already satisfied, already intra-marginal, in order that the current labour thereby released from them could provide additional extra-marginal services —such as shoe-shining or professional footballing, or an increased density of shop-walkers in city stores—which do not themselves require capital to assist in their provision. (This last is rather an intricate point which I shall not explore. It is not essential to the argument.)

What *is* important is that the distribution of the resources devoted to *net* investment between different industries has been determined mainly by the composition of marginal consumption. Other resources are, of course, needed for replacement and the distribution of these will be fixed by the nature of the total capital stock, the differing life spans of its components, and, to some extent, by their average ages. Adding the two together, taking the investment industries as a whole, we can infer that some have probably been predominantly devoted to replacements, while others have a large component which is making a net addition to the total capital stock, and, thence, when in use, to the current output of consumption goods also.

This, as I understand it, is the way accumulation affects the pattern of industry in a community which has a stationary population and is in equilibrium. For the present, on the strength of the drastic assumptions made at the beginning of this part, I am assuming that it describes the Australian situation before the flood of migrants begins to flow, and flow so fast that the population increases by 3 per cent a year.

What happens then? Whether through the perfection of the labour market or through the strength of the Unions—it is odd that it should not matter which—I shall assume that migrants earn the same wages as anybody else; and also that they have the same tastes and the same abilities. For the present also I shall further assume that they bring no capital with them, and that no overseas borrowing is possible.

Clearly if our migrants are like this, they will (by definition) want to consume the same amounts of the different consumption goods as the natives are currently consuming and they too will want to save 12 per cent of their incomes.

The production of this additional quantum of goods will require —since technique is not changing, and so long as relative prices do not alter—a similar quantum of capital. Hence, if the population is increased by 3 per cent so must each component part of the stock

of capital be increased by 3 per cent, if average output *per capita* is to be maintained. (This assumes constant returns from capital and land: but on the whole I think this not an unreasonable assumption for the economy as a whole. Perhaps in the real world there are slightly decreasing returns from land, and slightly increasing ones in transport and industry, and I doubt whether on balance there is much in it, over the range we are considering.)

The essence of what I call the adjustment problem lies here. The migrants increase the labour force by 3 per cent: but if the average standard of living is not to alter, the capital stock in each and every branch of industry must increase by 3 per cent—*forthwith*. And this requires an investment of another 12 per cent of the national income over and above the 12 per cent that is already being invested by the "native" population. We are, therefore, faced with a sudden and very large excess of demand for investment over supply. Some demand must go unsatisfied. But can we discover any guidance from theory as to which?

It is easy enough to say that migration is very inflationary: that the migrants' demand will cause a boom. That scarcely answers the question, even though it is the only reply trade cycle theory seems to be able to offer. I shall come to the question of inflation later. For the present I want to show that, if we neglect the effects of inflation, if, as it were, we imagine that we are all so sensible that we behave in real terms and do not confuse ourselves with monetary veils, this problem is amenable to argument.

There are four possible resolutions of our dilemma.

First, people could all work harder and produce the required 12 per cent increase in output. I think we can reject this out of hand. The supply of work in conditions of full employment is not so elastic as all that.

Secondly, people could consume less—something like 14 per cent less—and thus release sufficient resources for the whole of the migrants' investment demand *and* the previous investment demand to be met. This, too, has only to be mentioned to be rejected. If anything is empirically certain it is that real consumption demanded does not fluctuate much in conditions of full employment: savings are not very sensitive to changes in the rate of interest.

Thirdly, the migrants' investment demand could simply fail to be satisfied, leaving the previous investment programme unaltered; or, fourthly, it could be the other way about. We are left with only these two alternatives to choose between.

The proposition I want to put before you is that the old investment programme, what I shall call the programme of progress investment, will, on the assumptions so far made and with the further

one that resources are mobile, be the demand that gives way: and that the migrant's investment demand will be satisfied.

The reason for this is very simple. It can be put in one sentence. The utility of the product of the migration programme to the migrants will be greater than the utility of the product of the progress programme to the "natives." £100 invested in a house for a migrant satisfies a more urgent need than £100 invested in producing television sets for "natives." Since the two have the same (wage) incomes and the same tastes, and they are competing for the £100 of savings, the migrant (or anyone seeking to satisfy his demands) will be willing to pay a higher rate of interest. If resources are perfectly mobile he will not, in fact, need to do so, of course. The investor will not mind in what his £100 is invested, and an imperceptible increase in rates will induce him to change its destination. By the same assumption of perfect mobility the producers of television sets will transfer their activities to the erection of houses and there will be no changes in their prices.

There are two points to be made about this argument.

The first and least important is that a solution on these lines will not, in fact, permit the incomes of migrants and natives to be equal. In fact, there is an ambiguity in the assertion that they start with the same incomes. The migrants, having no capital when they arrive, must be poorer than the "natives" by the extent of the profit-incomes they do not and the latter do enjoy, even though they receive the same wages for current labour. They have, therefore, as it were, to borrow from the "natives" and to pay on the average more interest charges to other people than to the latter. The significance of this should not be exaggerated because so much of the national capital—such as roads and railways—is open to all. But until things are sorted out by chance and change the migrants must remain somewhat poorer than the natives and they will have some effect on the pattern of investment.

The second point is altogether more important. The argument just given assumed all resources perfectly mobile. But, of course, they are nothing of the kind in reality, and this may seem at first sight to destroy the interest or relevance of the whole proposition. I do not think, in fact, that it is as bad as all that.

It will be remembered that I have drawn a contrast between the composition of the two investment programmes: one for progress in a constant population and the other for maintaining incomes for an increasing number of people. One added to the marginal sectors of the capital stock: the other added to all sectors proportionately. Now it may be that the industrial composition of the two increments is not very different. Suppose, for illustration, half

the existing capital stock consists of buildings and construction—mainly houses—and half of engineering products—mainly tractors and lorries and suppose that by some fortunate chance *half* progress investment consisted of Art Gallery buildings, cinemas, Olympic swimming pools and the like; and half of passenger cars and other engineering products. Then there would be no great problem of mobility: the builders of Art Galleries and so on would have to switch to building houses, and the car manufacturers would have to turn over to producing tractors and lorries. These would be transfers internal to the main industrial groupings and as such are the sort of change that go on all the time. Even easier would it be if net investment in building before migration took the form of replacing derelict homes with larger and more expensive new ones. All that would then be required would be for the building industry to turn over to erecting more and cheaper houses. Even where the switch is not quite so simple as that there are such possibilities as using the engineering industries to produce buildings. The Meccano houses that adorn some parts of Canberra are an example. Thus some part of this transfer from progress to migrant investment should present no difficulty. Some resources are very mobile even in reality.

However, it is obvious that this is not the whole story. It is quite clear empirically that Australia requires a net expansion of building output: and it is also clear that the greater part of progress investment has been going on elsewhere. To consider the implications let us, purely for argument's sake, assume that there are no internal switches possible, that we require a huge transfer of resources from engineering to building and that this is the only transfer required. Does this imply that the cost of houses relative to other things is humanly bound to rise and, if so, what would this do to our theorizing?

In answering these questions we must, I think, distinguish between short and long period inelasticities. There would be a long-period inelasticity if, for example, the community contained only a given number of men who were physically or psychologically capable of being, or willing to be, builders of given efficiency and if all or most of these were already in the industry. If this were so, as the building industry increased its efficiency would inevitably fall. I suggest that there is no such fundamental inelasticity to fear, either in the case of building workers or of any other factor of building production. I think we can reasonably assume that in the long run the transfer from engineering to building could be achieved without changes in relative prices.

On the other hand, we must reckon with both genuine and frictional inelasticities in the short period. Brick-works take time

to build; workers take time to attract and time to train. These are what I would call *genuine* short period inelasticities. Over and above them there are all sorts of *frictional* inelasticities: the reluctance of the brick industry to increase its output, rigidities of prices, Union obstructionism and so on—all factors arising from market imperfections, uncertainty, obsession with the past, or plain ignorance.

Because of all these, clearly the cost of housing will rise in the short period relative to other things, and may rise in a long way, though as these are all short period factors it will come down eventually. While they are up the development process will be distorted. I think we can distinguish three extreme possibilities, though there are many others. First, if these inelasticities do not prevent the transfer of resources or raise building wages but merely reduce their productivity once transferred into the building industry, the 12 per cent of the nation's real resources devoted to investment produces at previous prices, a smaller quantum of capital. Progress investment goes out, but the full migrant demand for houses is not met. The community becomes generally short of houseroom. The fortunate natives gain a quasi-rent through the increase in the value of their existing house-property relative to other commodities, and the unlucky migrants pay more and get less houseroom than they would have done had resources been completely mobile. Alternatively, the physical productivity of the building industry may not change, but its money costs may so rise that some demand for houses is choked off. If this happens there will be some real resources, as it were, left over after satisfying that part of the migrant demand which survives the price increase. Now our assumption about the constancy of investment as a percentage of national income is ambiguous: if the relative prices of capital and consumption goods change we need to know whether it is real net investment (i.e. investment at previous prices) or money net investment (i.e. investment at current prices) that is to be 12 per cent of income.

If, secondly, it is the money proportion that is fixed, not all the labourers extruded from engineering by the transfer of monetary demand to houses will be used in housing, and they will have to move to the current production of consumption goods. They could either produce services or they could produce goods for which capital is required by an intensification of the existing utilization of that capital, at the cost of some reduction in productivity. This is the second extreme possibility. It does not seem to me very likely.

The third possibility is what would happen if it were real investment that was fixed. In this case after the housing demand had got part only of the previous progress investment resources, the remainder will stay in engineering and produce the capital

required for producing hitherto extra-marginal consumption goods. This, or a combination of this and the first case, seems to me the most probable. By comparison with conditions of perfect mobility, there would be a distortion of the pattern of consumption: housing standards would gradually fall, but in compensation some extra-marginal consumption goods would be obtained. Some of the migrants have to live in hostels, but they buy motor bicycles.

It is, I think, important to recognize that these effects of the short period inelasticity of building supplies are—if we accept all the presuppositions of welfare analysis—harmful to the general welfare. They increase the inequality of incomes by enriching builders, and by giving a quasi-rent to those who owned houses before migration started; physical productivity may be lower than it was before; and the migrants are compelled either to pay more, or to take unwanted substitutes, for houseroom. It seems to me accordingly that it should be accepted that government intervention to overcome the frictional factors in the inelasticity is legitimate and desirable. I would be inclined to put it very high in the list of permissable types of intervention.

Finally, there is overseas borrowing which we have so far ignored. Obviously if, with the arrival of the migrants, we could immediately acquire overseas the entire capital resources for which their establishment creates a demand, the whole problem would be transformed. We could in principle by borrowing enough resources of the right kind make any reduction of progress investment unnecessary. We could perhaps argue that Australia being a small nation with a population only 4 or 5 per cent of that of the potential foreign lenders, loans of this magnitude should be practicable, especially as the migrants come from the lending countries.

However, I do not think that it would be useful to discuss the amount of borrowing that should in principle be possible. If we are to keep anywhere near reality, we can, I suggest, only make an arbitrary judgment of the level of overseas borrowing that will prove practicable. The working assumption I shall make here for the purpose of this argument—it is no more—is that an Australia of the rather strange kind we have been discussing could if it wished borrow, but that it could not borrow anything like the amount that would appear to be required on the kind of quantitative assumptions we have so far been making.

If this is accepted our adjustment problem is modified but not wholly transformed. Suppose that we could annually borrow overseas a sum equivalent to some 3 per cent of the national income: then if consumption can be prevented from increasing—a big 'if' that I shall not discuss—we could invest net 15 per cent instead of 12.

If we satisfied the whole migrant demand, we could also satisfy a quarter of the progress demand: or if inelasticities hindered the migrant demand we could meet a bit more of the progress and a bit less of the migrant demand.

Borrowing of this kind would, as these figures suggest, still leave us with the bulk of the adjustment problem on our hands. There would also be a second adjustment to deal with. Some of the migrant demand—e.g. dams, roads, site-preparation for houses—cannot be imported. Something else would have to be imported instead to release local resources for this kind of work. But these are intricacies which will be familiar: and they are among the important matters which, in an article not intended to be a balanced review of contemporary problems, I shall without apology neglect.

III

The second problem I wish to discuss is whether large scale migration is consistent with financial stability and, if not, what fresh troubles we might get into. This is so familiar a question that I shall be brief.

Hitherto the argument has assumed full employment and equilibrium, and we considered the adjustment problem as one of analysing the successive changes in this equilibrium that would occur if equilibrium were preserved. I fear this will have had an air of extreme unreality. To put it very crudely, and no doubt unjustly, I believe that many Australian economists fear that large scale migration will add another and very potent impulse to the variety of forces which have already generated a rapid inflation in Australia and are still operative. They fear that the thing may get out of hand, and that, besides an intensification of the evils inflation has already brought, we may find ourselves driven into a general cataclysm of some dark and mysterious kind. I want to argue (on the basis of my understanding of other people's analysis of our past inflation) that this is all very exaggerated.

In the first place it is not unlikely that the inflation of the last few years has been due largely to causes which are ceasing to operate. I believe it is accepted that it is unlikely that primary product prices will rise very much further, at any rate through demand factors. I understand that the prices and costs of Australian manufactures have risen to something much nearer equality with world prices, partly because our past inflation has got us over the unintended consequences of the inordinately successful pegging of costs and prices during the war, and partly because world costs have themselves more or less stopped rising. Third, a lot of war-time backlogs

for durable consumption goods and for capital replacements and extensions are now near to being worked off.

For these three reasons it is arguable that our past inflation might have been expected to come to an end fairly soon. If there is to be a continuing inflation therefore it will have to be driven by a new force or by a force which, though present in the past, has not been pushing as hard as the others just mentioned have been pulling. The question is whether this will be provided by immigration.

The arguments about the adjustment problem, if correct, indicated that the migrant demand would *displace* the progress demand in a rational world. But with both a banking system, and a sanguine and irrational race of investors, equilibrium is not institutionally imposed on the community. It is open to people to try to carry out *both* programmes: instead of being substituted one for the other, they may be added together and flung on the market.

Clearly there must be some truth in this argument. Before migration started, many firms and individuals had plans for development which migration will apparently do nothing to make them wish to abandon. In a much less specific way the enterprising class will have acquired a conception of the trend of development which will underlie their current plans and which will not quickly change. But it does not seem to me to be reasonable to assume that either the *whole* of the migrant demand will immediately come on the market, or that *none* of the progress demand will leave it. For a period migrants may be satisfied with—or at least put up with—hostels or tents: and to that extent they will not immediately be in the market for new houses. Similarly the steel works being planned for progress may be usable for migration demands without the investor planning the immediate erection of a second. All sorts of planning bottlenecks will prevent the current flow of attempted investment expenditure increasing by anything like the full amount. The extent of the immediate net increment of demand due to migration seems to me very difficult to estimate. While the new demand is inelastic in the long run, as it were, for reasons already discussed, much of it (and much of the old also) may in the short run be postponable. The delay may be so long that the progress projects already pressing on the market can get carried out without being unduly jostled, and that the migration projects can follow on in an orderly manner. Maybe quite a little pressure from the lengthening back of the queue may induce some in the middle, who were never very certain that this was their bus, to leave.

However, let us agree that there will be *some* inflationary pressure. How far would this upset the adjustment process I have been trying to describe? I believe that in real terms, in Australian conditions, inflation makes very little difference to real events.

It used to be said that inflation raised real investment at the expense of reducing real consumption. (Rather paradoxically it was often also said that it reduced savings—but we need not go into that.) But surely all post-war experience shows this to be a mistake. With strong Unions and Arbitration Courts to protect the level of consumption the proportionate division of output is not much affected. (This is perhaps a pity.)

It is still said that inflation removes the incentive to hard work, and makes it easier to shorten hours. But is it not much more plausible to ascribe low productivity where it is undeniable mainly to shortages of materials? And as to shortened hours, is it not true that a great many people use their two days off a week to work like Trojans on other jobs—whether for their own consumption or for pay?

It is said that inflation hinders the mobility of labour. But is it not full employment rather than inflation that we are here complaining about? Mobility seems to me to involve real costs when continuous employment is possible; surely people are reasonable in wishing to avoid them. I also find it difficult to reconcile this charge against inflation with complaints about high turnover.

It is said—though this is much the same as the last point—that inflation causes a maldistribution of labour and hence shortages of materials, etc. But most of the particular labour shortages of which we compain to-day can be ascribed, it seems to me, equally well to the combination of full-employment immobility with the maldistribution of resources forced on us by slumps and wars. There is also the argument that when average real incomes rise, and full employment is obtained, the real incomes of unattractive jobs such as mining need to rise faster than most, and that this—since it involves heavy investments in housing and amenities—must take time. For these reasons, it would surely be just as reasonable to blame labour shortages for inflation, as the other way about.

Finally, it is said that inflation, even if it does not alter the volume of investment, alters its composition: milk bars—a progress investment perhaps?—get built while a rolling mill gets delayed. Clearly this sort of thing has happened and will continue to happen unless we become very skilled in adjustment policy. But again it is, I suggest, more due to friction in the investment market than to inflation. If the rolling mill were really a migrant requirement, and the milk bars not, the return on investment in rolling mills, even with inflation proceeding, should be the greater of the two. If investment in milk bars is nevertheless made it must be as a result of some friction. There is, I think, in our economy exactly the sort of friction which will explain it: namely that a large proportion of investment takes the form of the reinvestment of profits

in the enterprise earning them. I imagine that no Board of Directors ever hesitated to invest their shareholders' money for a return of 5 per cent in their own show even if enquiry, had they made it, would have revealed opportunities of 10 per cent elsewhere. This will apply whether or not there is an inflation, and it does, I suggest, explain a great deal of the maldistribution of investment for which we blame inflation.

Thus it is arguable that all these little miseries laid at the door of inflation have quite other parentage. Personally I accept these arguments, and do not regard inflation as the monster of vice that many other judges do. It does, of course, do much damage to widows and orphans—but that, though with trouble, is reparable.

Finally, as to the effects of inflation on the balance of payments. In one sense it must be reckoned positively advantageous since a rise in local costs tends to produce just that deficit which is required to match overseas borrowing. But it may go too far and too fast; in the sense that the deficit may become too great to be covered by regular long-term borrowing (or willingly repeated short-term borrowing). If so there may have to be a forced readjustment, so large and so sudden that a full scale slump is generated. But even here I suggest that we may be over-anxious. In the first place, the deficit starts rising rapidly only when local products are meeting strong competition from imports: at this point prices tend to stabilize, and some frictional unemployment tends to occur. Both effects should moderate the pressure of inflationary demands for investment, or for wage increases: and these in turn will limit the expansion of imports. The uncontrollable uprush of the overseas deficit that some fear may, therefore, not be so fast as all that. Secondly, even if the deficit is becoming too great to be conveniently covered, there is in the exchange rate an extremely simple instrument for controlling it; there is always the possibility of extending physical controls; and a good many imports are directly or indirectly on Government account.

To sum up, are we not perhaps all unduly obsessed with the possibilities of inflation? Inflation is either of two things. It is a mechanism by which some largely desirable or inevitable adjustments are worked out—e.g. those implied by changes of export or import prices—or it is the peculiar ritual by which the investor exhibits the exuberance of his optimism and the consumer the vigour of his greed for more consumption. Especially when it is of the latter kind, it is very troublesome, and worth much effort to avoid; it is, however, to be considered as a proof of economic adolescence, it is not more. And we will certainly fail to give the attention we should to the true economic problems of the next decade if we

think it the whole story. The fundamental short-term problem is that of adjustment.

IV

I come now to the second main question that I undertook to discuss: that of the effects of migration on the progress of the standard of living. It is so large a subject that I would have liked to evade it, but the implications of the simple analysis of the short term adjustment problem just given are so misleading about the longer term prospect that it is necessary, as briefly as possible, to upset them.

I assumed that at the moment migration started the capital stock of Australia was four times its income, and that 12 per cent of income was saved. Then, when migration started at 3 per cent of the population per annum, I asserted that investment for progress would be displaced by investment to meet migrant requirements. At best, if resources were mobile, this replacement would be prompt and complete. More probably there would be short-term inelasticities that reduced real output or at any rate distorted it into less satisfying channels. At best, therefore, the standard of living would be immediately stabilized: at worst it would be temporarily reduced. This was the hard core of the argument as stated.

That formulation served the immediate purposes of the short-term analysis but before we draw conclusions about long-term progress, we must look to its assumptions.

First as to the quantities I used for illustration. I suspect that $3\frac{1}{2}$ or even 3 would be better as a ratio of capital to income. Also, of course, population has been increasing; and some investment has been conditioned by that increase, so that the required switch from progress to migrant investment is not so large as the illustration suggested. Second, there is the possibility (already mentioned) of overseas borrowing, which would certainly salvage some progress investment, even if the illustrative quantities were correct. Third, I assumed constant returns. Personally I would guess this to be, overall, correct. But it is no more than a guess. Fourth, I neglected inventions, which after all do occur.

Fifth, I neglected increases in productivity not associated with inventions in the ordinary sense of the term—i.e. all the improvements in management, and practical skill of every kind that go on in any community which is not so intelligent that it knows everything at the beginning or so stupid that it will not learn. Improvements of these kinds may be of profound practical importance.

Sixth, there was major assumption about the characteristics of the migrants; that in tastes and abilities they were just as others were. Now it may be that, being persons with different backgrounds,

and coming to largely new conditions, and being necessarily insecure socially and economically, their behaviour will be quite different. Can we not guess that for a period of years they would contentedly take less leisure, have a higher hourly output, consume less, especially of houseroom, and save more than the established population?

Seventh, I assumed that the existing population would neither save more nor work harder than before. But in a general atmosphere of growth and development they might change their tunes. This is an exhilarating tune in Australia.

Eighth, any argument that assumes that our economy was in equilibrium in the period preceding the inception of a mass migration clearly needs some qualification. It is difficult to say which way this factor works: but I would guess that over the last twenty years we have wasted in unemployment and in war expenditure far more potential capital than we consumed by postponing replacements and maintenance during the war. Thus, by maintaining full employment in the next few years we should be able both to overcome backlogs and maintain a rate of investment higher than in the past.

Thus, for some at least of eight separate reasons the crude argument that large scale migration will halt progress, is probably quite untrue. Unfortunately, however, they do not affect the further argument that *without* migration the standard of living would increase during the next few years *faster* than it would *with*. The whole trend of the argument would lead to this as a probable conclusion. It would not be the necessary conclusion, since migrants might be several times as productive as other people and several times as thrifty; they might be inordinately inventive, and there may be, net, increasing returns. However, these are not very promising ways of escape.

Nevertheless, I want in conclusion to suggest that even this is probably misleading. If we allow for still further complications and frictions so far neglected, migration may accelerate, not slacken, progress. I fear however that my argument on this point may have to be too hurried to carry conviction.

The expression "standard of living" can have two definitions. It can be a measure of the quantum of *marketed* goods and services consumed, and—though the point is usually left vague—invested, per head. That is the ordinary sense of the term in statistical discussions, and it is the sense in which I have been using it. But it can alternatively be a measure of economic *welfare*, in the sense that it also allows for all the divergencies between private and social product which affect the welfare of the individual but do not get included in statistics because they are not explicitly exchanged for

money: for example, the money values, positive or negative, people would put on access to picture galleries, the noise and dirt and ugliness of cities, the solitude of the country, the difference of climate between North and South, and similar unmarketed utilities or disutilities.

Now in a country that is both poor and homogeneous the economic and the welfare standards move together because necessities are, in fact, nearly all marketed. No harm is done, therefore, when the economist produces propositions about the first, and his audience takes them as propositions about the second. But Australia comprises areas with widely different ways of life, and is very rich. I suspect that it is true, for reasons already given, that migration will diminish the future rate of progress in the statistical standard of living, but it seems quite likely that in the welfare sense, it could increase it. For this I suggest two reasons, and from it draw one final conclusion.

The first reason (rather a niggling little reason) is that what one might call basic needs for clothing, shelter, food, etc., are quite different between North and South: they are very much less in the tropical 38 per cent of this continent that contains 1 or 2 per cent of Australia's population than in the South. The statistical standard of living up there is, probably, distinctly lower than in the South, without the welfare standard being very different. Consequently, if more than 1 or 2 per cent of migrants go up there in the next decade the statistical standard will doubtless rise less than (other things being equal) if there were no migration.

The second, and more important point, is that when we are rich —when basic physiological needs are fully met, as they are to-day— we attach increasing importance to the very types of costs or income which do not get into the statistical standard: we get rich enough to worry about the travelling time to and from our work, and by the smoke and dirt and noise in cities. Two alternative patterns of development may then take place. If the State does not step in, we compensate for these "unmarketed disutilities" by buying more and faster cars, acquiring more solidly built houses, more laundry services, more gadgets and so on. But the increasing production of such things in turn increases the expansion of the cities, the congestion on the roads, and so on. Hence while the statistical standard may rise very fast, the welfare standard may rise very slowly and possibly not at all: i.e. progress in welfare (if any) is slow and expensive. Alternatively the State can rise to its responsibilities. By town planning, by regional and rural development, smoke abatement and all the rest of it, it can attempt to reduce what I have awkwardly called the "unmarketed disutilties" and give people more of the corresponding "utilities." This kind

of activity adds little to the statistical, but it may add much to the welfare, standard: it may be much the cheaper way of providing welfare (quite apart from any questions of the quantity of the welfare provided).

These alternatives are before us whether or not population increases fast. But the State's opportunity is much greater, and frictions impeding it are much less, when it has in any event to cope with the migrants. Even if with migration it did no more than limit the city diseconomies to what they would have been without, the average welfare standard will still rise faster. But there seems no reason why it should not do more. Precisely those frictions and imperfections in the market which cause the cancerous growth of cities in a stable population may assist the welcome healthy growth of country towns in a rapidly expanding Commonwealth, and thus as it were, drain off some of the forces expanding cities. Australian as well as migrant youth may go West and North.

I would infer from this a reasonable probability that if public policy takes the enormous opportunity offered it by migration to arrest and, even reverse, the growth of cities, by the largest possible scale of regional and rural development, especially in the North, the welfare standard of living might rise substantially faster than it would without migration, even though the rise in the statistical standard would be less rapid. But whether this result is achieved depends, even more than does the smooth negotiation of the short-term adjustments to increased migration, upon the initiative and skill of the State. The State, largely because of frictions in the capital market, is the prime investor and the prime entrepreneur for all rural development: on its shoulders is the task of preserving a balance between primary and secondary production. The State as provider of basic services controls the location of industry. The State as town planner, as educator in the fine arts, as guardian of natural beauties, is the destined producer of most of the now extra-marginal types of consumption. If it fails in all these tasks, 1960 will doubtless see Australia a race of city dwellers with a high statistical standard of living, but discontentedly conscious, or meanly tolerant, of a low standard of welfare. If it succeeds, my personal guess would be that nobody will wish even to enquire whether they might not have been better off if they had been less courageous in increasing the number of their fellow citizens. You would be, like the blessed in Dante, uncaring whether they might have been nearer to or further from absolute felicity. You would, in fact, be approaching that state of bliss in which economics ceases to be interesting.

D. M. BENSUSAN-BUTT.

Canberra and London.

THE IMPORTANCE OF WOOL IN AUSTRALIA'S NATIONAL INCOME[1]

I. Introduction.
II. Costs of Wool Production.
III. Relationships between Wool Income and the National Income.
  (a) Determination of the Income Series Used.
  (b) Wool Income as a Constituent of National Income.
  (c) The Effect of Wool Income on the National Income.
IV. Summary.

I

It is a time-worn phrase that Australia lives off the sheep's back; but so far no thorough estimates have been made of the extent to which this maxim is true. This enquiry attempts to estimate the influence which wool income has exercised on the Australian economy over the last 35 years. The theoretical background to it is provided by Keynes' macro-economic approach which employs aggregates of income, consumption and investment expenditure as determinants of the economic system. The object of this survey is to assess the relationship between wool income and national income, and to determine the way in which changes in wool income are reflected in national income.

II

In the course of this study it was found necessary to make estimates of the costs incurred in producing wool for the years between 1914-15 and 1948-49. Only the final results of the statistical work involved in arriving at these figures are included here.[2]

We have to draw a line first between costs of wool production, and what may be regarded as the reward to producers. Obviously, if we account for all the payments to land, labour and capital, plus all other expenses incidental to the production of wool, we do not arrive at the cost of producing wool, but the pure profits made by wool growers. While such information may be of some interest, it is not useful for the purpose underlying this survey. The assumption here is that all land, labour and capital directly devoted to wool growing are regarded as the "wool growing effort." Payments from one member of this wool growing team to the other must not be labelled "costs." We may imagine the receiver

1. The research work which forms the basis for this article was carried out under a grant from the Bureau of Agricultural Economics. I wish to thank Dr. D. Cochrane of the University of Melbourne for reading the MS., and for his most valuable suggestions for changes in the original text. But I remain solely responsible for any errors of fact or judgment which may still be contained in the article.

2. The Bureau of Agricultural Economics intends to publish a complete version of the results, including the description of the calculations involved in estimating costs of wool production, and all graphs and tables based on them.

of the wool cheque passing part of his income on as transfer payments to men engaged on his property, to his banker, who may have lent him part of his capital, and perhaps to the owner of his property to whom he pays rent. For our purposes all these individuals and companies must be regarded as collaborating with one aim in view—the production of wool. We have to disregard the fact that the effort of these constituent parts of the wool growing team may have found employment in some other work.

It is an altogether different picture when we look at other expenditure incurred in wool growing. Payments made to machinery merchants, manufacturers, railways or oil companies are not in the same category as, say, wage payments to shearers. The firms and individuals receiving payments for these goods or services have varied interests, and their dealings with wool growers are only incidental to their activities in general. They must be regarded as extraneous to wool production, and thus payments to them we term "costs."

There are three instances where doubts may arise as to the proper allocation of payments made by wool growers. The first is interest paid on advances, the second is charges levied by wool brokers for the storing and sale of wool, and the third is the treatment of purchases of plant and machinery. In the first case it must be assumed that whenever a financial institution or a person lends money to a wool grower, it assumes part at least of the hazards inherent in wool growing, and cannot be regarded as an outsider. There is no justification for treating capital supplied by the wool grower differently from capital supplied from any other source, as we regard them as the basic requirements without which wool growing would be impossible. On the other hand, wool brokers' charges are regarded as costs, as we are concerned here only with wool growing, and not with every aspect of growing, marketing and perhaps even the treatment of wool. By the time the broker handles the wool, it has usually incurred expenses for transport, etc., and is one stage removed from the producer. While we have excluded most capital items from costs, we are not justified in treating the purchase of plant and machinery in the same way. These expenditures are made to businesses not regularly connected with wool growing, and have been regarded as costs.

Table I of the Appendix shows in detail costs incurred in respect of expenditure for stores and rations, repairs and maintenance, farm transport, freight, drought costs, marketing costs and the purchase of plant and machinery. It has to be stressed that figures contained in this table should not be regarded as exact. In several instances the figures were calculated on the basis of not altogether

satisfactory primary data. But, while individual figures may not be accurate in every case they reflect fairly closely the orders of magnitude involved, and the changes which have taken place from year to year.

III

There are two major ways in which Australia's wool income and national income can be related. Firstly, we may be interested in the changing fraction which wool income represents of the national income. Secondly, we may concentrate on the effect which changes in wool income may exert on the national income. The first approach is like looking from the whole towards its constituent parts. The second approach implies that we are looking in the opposite direction. What we are interested in is to establish the effect of changes in the part (wool income) on the whole (national income).

(a) *Determination of the Income Series*

(i) It was decided to use "Net National Product at Market Prices" instead of other national income figures for two reasons: first, that this income stream includes the results of Australia's external trade (and wool accounts for up to 50 per cent of Australian exports in some of the years); second, that these figures are net of depreciation, a fact which is of importance when we take the multiplier effect into consideration. The sources of national income estimates were Clark and Crawford's *The National Income of Australia*[3] for years up to June, 1929. Figures quoted there were increased by 1 per cent to bring them more into line with H. P. Brown's estimates[4] which were employed for years after 1928-29. Income for the years 1915-16 and 1919-20 was obtained by interpolation and the adjustment of the results by variations of the Melbourne Wholesale Price Index. In this study the term "National Income" is used to indicate Net National Income at Market Prices, and should be distinguished from the "Adjusted National Income" series which was arrived at by deducting the same year's gross wool income from the "National Income."

(ii) "Gross Wool Income" figures have been taken from Production Bulletins of the Bureau of Census and Statistics. "Net Wool Income" is gross wool income less costs of production, that is the net income received by the wool growing team.

To the wool grower most of the costs (with the exception of repairs and maintenance, and the purchase of plant) are "unchangeable"; that is, he must incur them as long as he continues to

3. Sydney, 1938, pp. 59-60.
4. H. P. Brown, "The Composition of Personal Income," *Economic Record*, June, 1949, p. 34.

produce wool. These fixed costs, which do not vary proportionately with changes in the quantity of wool produced are in the main stores and rations, and to some extent drought costs and farm transport. The major direct costs are freight, wool selling charges and part of farm transport. Direct costs account for roughly one-third of all costs, so that about two-thirds are not directly affected by changes in the quantity of wool produced. Some of the fixed costs, however, such as repairs and maintenance and purchases of plant, may be influenced indirectly, not so much by the quantity of wool grown, as by the returns earned by the wool growers. In this sense they may also be regarded as partly direct costs. The percentage of total costs to total wool income has varied considerably over the years surveyed, but on the average it appears to have amounted to about 25 per cent. If only about one-third of these have been direct costs then a large segment of the incomes of the wool growing team must influence national income through its non-wool growing expenditure.

For purposes of this study the profits distributed by the Joint Organization to wool growers in 1949 have not been taken into consideration. These profits were not available to farmers during the period of survey, and it is unlikely that graziers' expectations were greatly influenced by them.

(iii) In the past Australia's economy has been strongly influenced by changes in the trade cycle in major overseas countries. Retail, and particularly wholesale prices tended to follow closely general price movements abroad. The same was true, though with exceptions, of wool prices. In order to separate out the importance of wool changes in Australia's national income we have to remove these extraneous influences on both income series. Unless this is done both series show most of their movements in the same direction, and those changes which are attributable to wool only are unrecognizable. Although there is no index available which would satisfactorily describe the movements of the trade cycle, it has been assumed that the "C"-Series Retail Price Index is the nearest approximation to it. This series has been used to deflate all wool and national income series.

(b) *Wool Income as a Constituent of National Income*

The first relationship between the two income streams which we have to consider is the contribution of wool income to Australia's national income. During the thirty-five years analysed this relationship underwent considerable changes. Between 1914-15 and 1928-29 gross wool income amounted to about 10 per cent of the national income. After 1928-29 a steep decline set in which brought wool

income down to 5 per cent of the national income by 1938-39. With minor changes this relationship held up to 1945-46. From that date on wool again approached the 10 per cent level, and has even exceeded this for 1949-50.

Disregarding the three years 1946-47 to 1948-49, it appears that this decline in wool's importance in Australia's national income is rather a consequence of the country's rapid industrialization, than of an actual decline in wool production. In spite of its decline as a percentage of national income, the quantity of wool produced increased by about 15 per cent between 1931-32 and the year of peak wool production, 1943-44. After that year, prolonged drought conditions reduced the size of the clip to below the 1931-32 level. By 1948-49 the quantity of wool produced was back to slightly above that year's clip, and there have been further advances since then. Low wool prices in the 'thirties meant that the 15 per cent increase in the quantity of wool produced was reflected in only a 10 per cent increase in the wool cheque. The position was reversed during the post-war era, when production for some of the seasons was the lowest for 15 years, yet average wool income for the four years 1945-46 to 1948-49 was £119 million annually, that is, more than double the average of the preceding 15 years.

It is unlikely that the present relationship between wool and other prices in the Australian economy can be maintained in the long run. Export prices of wool have increased by about 360 per cent between 1938-39 and 1948-49 (by 1949-50 the increase was about 500 per cent) while retail prices ("C"-Series) increased by only 46 per cent, and wholesale prices by not more than 80 per cent. If wool prices fall or other prices increase sharply, wool growers' contribution to the national income should once more be reduced below 10 per cent, particularly since the development of secondary industries has been strong since 1938-39. The influence of wool on the Australian economy may tend to decline in the long run. No doubt, it will retain an important position as long as its share of Australia's total exports remains little different from pre-war, but we must judge the developments of the last few years, and the reactions to changes in wool income in that period to be exceptional.

(c) *Effect of Wool Income on National Income*

In this section we are concerned with two aspects of the influence of wool on the national income. The first is the primary effect of changes in wool income on the national income. This relationship is measured in two ways, by a correlation of gross or net wool income series with the national income series, to show

whether movements in one series are reflected by similar movements in the other, and by the regression of national income on wool income, which yields a wool income multiplier. The multiplier indicates the amount of change in the national income caused by a change in wool income.

The second aspect is the secondary effect which a change or net wool income has on the *adjusted* national income. In fact, we are mainly interested here in the repercussions of changes in *net* wool income on the adjusted national income, in order to establish the effect of changes in the spending habits of the wool growing team.

(1) Table A shows the results of correlating national income with gross and net wool income and of the regression of national income on wool income. A significant correlation indicates that changes in the national income (dependent variable) have been induced, at least to a certain extent, by changes in wool income (the independent variable). Regression equations yield the wool income multiplier. In the following tables, it should be observed that (a) correlations have been calculated using annual income changes; (b) results are shown for actual time series, and time series deflated by the "C"-Series Retail Price Index; (c) calculations have been carried out relating current national income to current wool income, and also current national income to wool income lagged by one year.

TABLE A

Correlation Coefficients and Multipliers relating National Income and Gross and Net Wool Income over varying Periods of Years

Type of Series	a. National Income and Wool Income of the same year.				b. Wool Income lagged by one year.			
	Wool Income Multiplier		Correlation Coefficient		Wool Income Multiplier		Correlation Coefficient	
	31 yrs.	34 yrs.	31 yrs.	34 yrs.	30 yrs.	33 yrs.	30 yrs.	33 yrs.
1. *Actual Time Series*								
a. Gross Wool Income	2·2	3·5	**0·443**	**0·730**	1·7	3·1	*0·359*	**0·615**
b. Net Wool Income ..	1·9	3·3	*0·409*	**0·720**	1·1	2·4	0·217	**0·503**
2. *Deflated Time Series*								
a. Gross Wool Income	2·0	2·1	**0·517**	**0·617**	0·7	0·9	0·187	0·323
b. Net Wool Income ..	1·8	1·9	**0·478**	**0·592**	0·3	0·5	0·094	0·228

Note: The 31 year period refers to the years 1914-15 to 1945-46, the 34 year period covers the years 1914-15 to 1948-49. In the lagged relationships the 30 year period for the national income series commences with 1915-16 and for wool income with 1914-15. They end in 1945-46 and 1944-45 respectively. For the 33 year series the last years covered are 1948-49 and 1947-48 respectively, without change in the years in which the series commence.

All correlation coefficients in black type are significant at the 1 per cent level of probability, and in italics are significant at the 5 per cent level of probability.

The results show a significant correlation between national income and wool income for both the actual and deflated series. This is not surprising, as wool income is an important part of national income. There is a notable difference in the closeness of the correlation between the shorter and the longer series. The latter which includes the years 1946-47 to 1948-49 shows a closer correlation with the national income series, and the multiplier of the actual series is considerably higher than for the shorter series. This suggests that the wool income changes of the last three years exerted a stronger influence on the national income than during the earlier years of the series.

The relationship between national income and lagged wool income in the majority of cases does not yield a significant correlation coefficient. This implies that the primary effect of changes in wool income on the national income mainly finds expression in the same and not in the following year.

Mr. Garland in an unpublished paper presented to Section G of the Congress of the Australian and New Zealand Association for the Advancement of Science in Hobart in 1949 calculated a multiple correlation between national income, internal investment and net exports (goods and services), and found multipliers of 2.56 for internal investment and 1.60 for net exports for the years 1928-29 to 1938-39. He went on to say that "No doubt, the value for 'c' (the external investment multiplier) is somewhat low, at least in comparison with accepted ideas about the multiplier, but it is possible that, in fact, external investment may not multiply through the Australian structure of incomes as fully as an internal injection. The reason for this may be that in the hands of exporters, there is a tendency for savings, and possibly for import expenditure, from an increment of income to be relatively high."

Our findings for the 31 year period, up to 1945-46, tend to support Mr. Garland's conclusions. It has to be remembered that his multiplier of 1.60 was arrived at in respect of *all* exported goods and services *net* of imports. Our figure is confined to wool income only, without offsetting imports. For this reason a higher figure than 1.60 for the multiplier was to be expected. The multiplier of 2.0 for the deflated series may be the figure which is best comparable to Garland's 2.56 internal investment multiplier. In both cases other influences on the national income have, at least in part, been discounted. The multiplier of 2.0 is about 20 per cent

lower than the internal investment multiplier, and may be regarded as a likely value for reasons discussed below.

It is only to be expected that the relationship between net wool income and the national income should not be as close as that between gross wool income and national income, as some of the income generating expenditures by wool growers (i.e. all costs of production) have been eliminated from the net wool income series.

(2) In the preceding section our attention was directed to the overall effects in wool income. We have now to discover the indirect repercussions of these changes. These secondary effects are of interest, first, because they show how income earned by the wool growing team influences national income *net of wool income;* and secondly, because an attempt can be made to obtain information on the distribution of net wool income between members of the wool growing team, and the influence of this factor on the national economy.

(A) Table B is based on the same assumptions as Table A, the only difference being that all relationships have been established in respect of adjusted national income data.

TABLE B

Correlation Coefficients and Multipliers Relating Adjusted National Income and Gross and Net Wool Income over varying Periods of Years

Type of Series	a. National Income and Wool Income of the same year.				b. Wool Income lagged by one year.			
	Wool Income Multiplier		Correlation Coefficient		Wool Income Multiplier		Correlation Coefficient	
	31 yrs.	34 yrs.	31 yrs.	34 yrs.	30 yrs.	33 yrs.	30 yrs.	33 yrs.
1. *Actual Time Series*								
a. Gross Wool Income	1·2	2·6	0·288	**0·635**	1·8	2·8	*0·407*	**0·630**
b. Net Wool Income ..	1·1	2·4	0·251	**0·595**	1·1	2·4	0·270	**0·559**
2. *Deflated Time Series*								
a. Gross Wool Income	0·7	0·8	0·211	*0·337*	0·7	0·7	0·248	*0·339*
b. Net Wool Income ..	0·8	1·0	0·272	*0·394*	0·5	0·5	0·166	0·214

Notes: As for Table A.

Once again there is a clear division between the results of the shorter and the longer series. Not one of the 31 year series of wool income shows a significant correlation with adjusted national income, while all the 34 years series show correlations which are significant at the 5 per cent level of probability. All series are less closely

correlated than in Table A which is not surprising as the national income series used is net of wool income.

The lagged relationships are not markedly different from those for the same year. This is in contradistinction to results shown in Table A. The reason may be that some of the expenditure from wool income occurs in the year following its receipt by the growers. But the higher lagged correlation between adjusted national income and *gross* wool income as against *net* wool income is difficult to explain, as most expenditure on costs of production occurs in the same year as income is earned. Of the wool growing team's income only the share going to labour may be considered to be spent more or less entirely in the same year.[5] The little that finds its way to consumers out of interest payments is certainly spent at least one year after wool income, out of which it is paid, has been received.[6] Wool growers' private spending out of disposable income may also take place in part at least some time after the receipt of the wool cheque in times of high income, while in times of depression this expenditure may occur out of loans before the receipt of income.

On the whole, the regression equations have faithfully reflected the elimination of wool income from the national income. We have to expect that this factor would account for a reduction in the multiplier of about 1.0. In fact such a strict relationship did not hold in every case, but the deviations from this figure were not great. Once again, the deflated series was chosen to give the most correct evaluation of changes of the national income induced by changes in wool income. These figures point to a secondary wool income multiplier of 0.8. There are no data for the secondary effects of the internal investment multiplier, but it may be assumed that it would be around 1.5. In other words, the secondary repercussions of changes in wool income may not exceed one-half of the internal investment's secondary effects on the economy. The higher figures for the longer wool income series seem once more to point to a probably much higher secondary multiplier effect for the three years 1946-47 to 1948-49, than for the 31 years series.

(B) (i) We discuss next the allocation of net income to members of the wool growing team, and the probable effect of their spending habits on the national income, and consider first the income going to labour.

The Commonwealth Report[7] and the Payne Report[8] indicate wage costs per pound of wool produced for shearing and crutching

5. See p. 227.
6. See p. 230.
7. *Report of the Commonwealth Wool Inquiry Committee, 1932* (referred to as the "Commonwealth Report"), p. 18.
8. *Report of the Wool Advisory Commission, 1939* (referred to as the "Payne Report"), p. 39.

and other wages and rations for certain years. Stores and rations have been accounted for earlier,[9] and the remaining expenditure for wages (with wages other than for shearing adjusted to exclude the proportion not paid for wool growing) was expressed as a percentage of average prices received for wool each year. For years up to 1931-32 average prices for all wool sold in Australia, but for 1938-39 average prices for Queensland wool only, were taken as the basis of calculations. On this basis labour's share of total wool income was assumed to have amounted to the following percentages:

Years	Wages as Percentage of Average Wool Prices per lb.
1914-15	26
1919-20	30
1924-25	15
1929-30	40
1931-32	38
1938-39	33

For the period between 1914-15 and 1927-28 we have three different percentages ranging from 15 per cent to 30 per cent of the value of wool sold. As 1924-25 was a most favourable year, while 1919-20 definitely unfavourable, it was decided to take 25 per cent of the value of wool sold in 1914-15 as representative for the period, and to adjust the figure (£7.25m.) by changes in the index of pastoral wages. For the years between 1928-29 and 1933-34 40 per cent of the 1931-32 wool income (£14m.) was made the basis for a similar adjustment. From 1934-35 onwards one-third of the 1938-39 wool income (£13m.) served as the basis for calculations.

The estimated amount of income going to labour is shown in Table II of the Appendix. These values may overstate labour's share for some of the depression years, and understate it for the last few years. It is probable that the pastoral wage index does not take into consideration wages lower than award rates paid to farm labour during the depression, and higher wages paid during the labour shortage of the post-war years. The lack of awards for certain types of farm labour makes the compilation of a satisfactory wage index particularly difficult.

With the exception of four years, between one-third and one-quarter of the *gross* wool income was assumed to have gone to labour. Table II of the Appendix shows labour's share in terms of *net* wool income. Over the years it has ranged from 14 per cent to 60 per cent of the net wool income, and was on an average 34 per cent, or roughly, one-third.

Wage income of pastoral labour has varied less, and with fewer jumps than wool income, and it is little surprising that there

9. See Appendix, Table I.

is a closer correlation between this series and national income than between either gross or net wool income and national income. The correlation coefficient of 0.689 for the 31 year period 1914-15 to 1945-46 is higher than any of the other correlation coefficients quoted so far for the same period. The lagged relationship, with expenditure from wages lagging one year behind national income, with a correlation coefficient of 0.212 for the 31 year period lies well below the coefficient for the same year. This is true also of the deflated series. Consequently the conclusion can be drawn that workers spend their incomes in the same year in which they receive it, which is highly plausible. The assumption is also warranted that their spending is subject to a very high propensity to consume, with savings negligible. Therefore, most of their disposable income would be spent on goods and services. Their propensity to consume out of their incomes, with taxes also negligible, would be a fraction under 1.

(ii) Interest payments to Banks and Pastoral companies may now be considered.

The two figures quoted in the Commonwealth Report[10] and the Payne Report[11] for cost of interest on borrowed funds were 1.75d. per lb. of wool produced for the whole of Australia in 1931-32, and 1.39d. per lb. for Queensland in 1938-39. By applying these rates to the total quantity of wool produced in Australia we obtain the figure of £7.8m. for 1931-32 and £5.3m. for 1938-39.

In order to calculate interest payments for the whole period of the survey information on changes in graziers' indebtedness has been obtained from certain pastoral companies. Trading banks could supply information on pastoral advances only for years after 1940. Since 1948 the Commonwealth Bank published information on bank advances to sheep growers. As the pastoral companies furnishing data have absorbed the businesses of other pastoral companies over the years their advance figures were reduced by 2 per cent p.a. from either 1914-15 or 1918-19 onward.

The figure of £5.3m. interest for 1938-39 became the basis for calculating interest paid by pastoralists in other years. The figures shown in Table XVII are the result of adjusting £5.3m. by the index of pastoral advances and by changes in rates of interest charged over the years. The result of this calculation for the year 1931-32 was very close to the interest figure arrived at by taking the cost of interest as 1.75d. per lb. as indicated in the Commonwealth Report.

10. See p. 225.
11. *Ibid.*

This check on the applicability of our system of calculations is particularly important in view of the probability that advances granted by pastoral companies may have behaved differently from bank advances to pastoralists. Pastoral companies mainly finance the current expenditures of graziers for stock, plant, etc. As a rule they do not engage in mortgage finance, except in two of the smaller States. Banks, on the other hand are the main suppliers of mortgage finance for farm purchases. Table 10 of the Appendix of the Royal Commission's Report on Monetary and Banking Systems of 1937 shows advances to "Agricultural and Pastoral Industries" by four trading banks for the years 1927, 1931, 1935 and 1936. In a note to that table it is stated that only about one-half of the amounts shown refer to the pastoral industry. A comparison between the advances index based on pastoral companies' experiences and the figures contained in this table seem to indicate certain divergencies. Banks' advances to the whole agricultural-pastoral group increased by 20 per cent between 1927 and 1931, and by 18 per cent between 1931 and 1935, while a slight reduction took place between 1935 and 1936. Pastoral companies also increased their advances by about 20 per cent between 1927 and 1931. But, between 1931 and 1935 there was a reduction of about 30 per cent, instead of an increase as reported for the banks. This discrepancy may be explained by two main factors. Firstly, there was a heavy writing down of bad debts, particularly between 1932-33 and 1933-34. In that year advances calculated on the basis of the index derived from pastoral companies' reports dropped from £146m. to £100m. As the net income of graziers from wool in that year amounted to only £34m. the repayment of £46m. could not have come out of current income. The second factor may provide, however, at least a partial explanation for this seeming descrepancy. *Net* advances by pastoral companies (that is, advances to graziers less their deposits) behaved differently from movements in *total* advances. They showed a reduction of only about £11m. between these two years. Therefore, it must be assumed that the writing off of bad debts coincided with an increase in graziers' deposits with pastoral companies. As the table quoted in the Report of the Royal Commission only deals with total, but not net advances, there is no possibility of checking whether the discrepancy in the movement of advances was confined to total advances or not.

In spite of this seeming shortcoming, the index based on pastoral companies' reports was retained for want of a better continuous series, except for the years after 1940. It is, therefore, necessary to have the limitations of these results in mind when using the information.

A further possible objection to using the series based on pastoral companies' reports is the apparent reduction of advances

to graziers during the depression period, when their incomes had touched the lowest level. An explanation for this behaviour may be found in the movement of the deflated advances figures. This series increased without interruption during the depression years from an index of 1,279 in 1929-30 (1938-39 = 1,000) to 1,689 in 1932-33. A sharp drop occurred, as in the actual series, between 1932-33 and 1933-34. Deflated series can be used legitimately, as advances on current account in particular are based to a large extent on the value of the product and cost of production and livestock. All costs and prices were lower during the depression than earlier, and, as a consequence, less money was required to finance a similar or larger quantity of wool produced.

Another feature of the depression years may have been an increase in loans to graziers by private individuals (usually members of their families) which may have helped them to overcome acute financial difficulties. It is impossible to account fully for this factor, as there are only scattered references to these occurrences in as yet unpublished theses.[12]

The total amount of interest paid by graziers is a resultant of two factors, their borrowings and the rate of interest charged on them by banks and pastoral companies. Having dealt with the first factor, we have now to turn to rates of interest paid by graziers. Pastoral companies report that their average charges in the past have been 6 per cent in the years 1914-15 to 1920-21, 6½ per cent from 1921-22 to 1927-28, 7 per cent from 1928-29 to 1930-31, 5.45 per cent from 1931-32 to 1933-34, 5½ per cent from 1935-36 to 1938-39, and 5 per cent since 1939-40. Information on rates charged by trading banks and savings banks between 1926 and 1936 is contained in the Royal Commission's Report (Appendix, Tables XI and XXV). They show a similar movement at a slightly lower level; rates charged by saving banks in particular are lower. As the amount of interest payable by graziers was derived from information contained in the Payne Report, for the year 1938-39, and the other payments adjusted only by the index of advances and the differences in the rate of interest charged, it is irrelevant what the actual rates of interest underlying our calculations were, as long as the variations over the years are generally applicable. There can be little objection to the use of the rates indicated by the pastoral companies on this ground.

Interest payments as such may not have had a large direct influence on the economy. They are shown in Table II to have varied between £3.2m. and £10.3m. The latter figure was derived for the depression years but it is unlikely that graziers really paid

12. See, for example: A. P. Bailey, *Financial Survey of the Northern Flinders Marginal Lands of South Australia*, Economics Department, University of Adelaide.

that amount because there were numerous defaults in the early 'thirties, and it is likely that wool growers' earnings were slightly higher than those shown in the same table. Interest income accruing to banks and other institutions would, in the first place have been added to their reserves before part of it was paid out to shareholders in the form of dividends. The portion paid out as dividends has probably caused some additional expenditure by their receivers. Most of such spending may be presumed to have occurred about one year after the payment of interest, and as only a relatively small portion of interest payments was thus passed on, their likely effects on consumption must have been small.

It is more important to view interest payments in conjunction with the granting and repayment of advances. We may consider all advances as given by banks since, with the exception of some insurance financed mortgages, advances granted by pastoral companies were also as a rule financed by them. The Royal Commission on Money and Banking traces in two graphs[13] the movement of bank advances and the banks' ratios of cash reserves to total deposits for the years 1926 to 1936. During this period graziers' advances as reported by pastoral companies showed a continuous upward movement between 1925-26 and 1932-33 (see Table II), a drop in 1933-34, and after that little change. Most probably banks' advances to graziers did not show the steep decline recorded in Table II between 1932-33 and 1933-34, but remained more or less stable at the 1933 level. In spite of this continuity of movement in advances to graziers the banks' cash reserve to deposits ratio fluctuated violently from about 33 per cent at the beginning of the period to a low of under 20 per cent in 1929, only to increase steeply again to about 38 per cent by 1932. This level was maintained up to 1934. After that year a steady decline brought reserve ratios down again to under 30 per cent by 1935-36. These movements in banks' reserve ratios prove that influences other than those resulting from changes in pastoral indebtedness were paramount in influencing the banks' lending policy, and thereby their role in the national economy. It was only during the first year of the depression, 1929-30, that the banks' advance-deposits ratio was so high that the carrying of pastoralists' accounts may have influenced their lending to other enterprises. Repercussions of this sort due to changes in pastoral advances are less likely to occur in future downswings since the enactment of the banking legislation of 1945. It has to be assumed, therefore, that changes in pastoral advances did not play a major role in determining the amounts banks advanced to the non-pastoral sector of the economy for most of the years surveyed.

13. Pp. 380-81.

(iii) Graziers receive as their income that part of the wool cheque which is neither paid away as costs nor paid to the other members of the wool growing team. All their private spending, and some expenditure, which while related to wool growing has not been accounted for in Section II (such as rent and taxes) must come out of this residual amount. When total wool income and graziers' funds are insufficient to meet all costs and payments to the other members of the wool growing team, graziers are forced to borrow from either the types of institutions mentioned, or from private persons. The only alternative would be a government subsidy or the receipt of support from some stabilization account which may be established.

In prosperous times, when graziers' income exceeds their expenditures, often by a wide margin, part of the advances made to them are usually paid back. However, occasionally favourable seasons were accompanied by high land values and an increased turn-over in the ownership of farms. The buyer usually found it necessary to finance his purchase by a loan. Thus we find in the prosperous mid-'twenties a considerable increase in advances to graziers. An increase occurred again in the years 1948-49 and 1949-50. But prior to these two years advances fell away steeply, as price control over land values induced many farmers who normally would have sold out to remain on their properties.

The difference between the gross and the net wool income series (see Table I) discloses a fairly rigid cost structure in the pastoral industry. This is also true of wage payments and interest charges. The wool grower's income on the other hand reflects in an exaggerated way most of the wide variations in gross wool income. Graziers' income amounted to about 40 per cent of the gross wool income over the average of the years 1914-15 to 1948-49. During the depression years their share of the wool income varied between nil and 15 per cent. (In fact it was somewhat higher because of some default in debt servicing and probably because a smaller share went to labour than is shown in Table II.) Except for the depression years wool growers' income as a share of gross wool income was lowest in drought years (1914-15, 23 per cent; 1938-39, 17 per cent; 1940-41, 28 per cent; 1944-45, 25 per cent). Exceptionally high percentages were always due to unusually high earnings (1923-24, 63 per cent; 1924-25, 64 per cent; 1947-48, 63 per cent; 1948-49, 73 per cent).

We are now left with the problem of defining the effect of these wide changes in income and the importance of graziers' borrowing on the national income. We assumed earlier that advances to graziers would tend to smooth out these fluctuations somewhat.

The results of two tests confirmed this assumption in general. The correlation of advances with the net income of graziers yielded a significant negative correlation. That means, that as graziers' incomes decreased they called on banks and pastoral companies for additional finance. Two series of advances were employed in this test, a "total advances" series which was based on the amounts lent to graziers by finance institutions, and a "net advances" series where graziers' credit balances held by these institutions were offset against their debts. The net advances series, it was assumed, would be a better indicator of graziers' expenditures. The correlation yielded the following results for r:—

	Total Advances				Net Advances			
	Actual		Deflated		Actual		Deflated	
	31 yrs.	34 yrs.	31 yrs.	34 yrs.	31 yrs.	34 yrs.	31 yrs.	34 yrs.
Graziers' Income ..	*-0·344*	*-0·351*	**-0·473**	**-0·728**	*-0·428*	**-0·587**	**-0·452**	**-0·561**

The significant negative correlations corroborate our assumptions. In fact, they would have been much higher, but for increased borrowings of graziers for the purchase of property and stock in times of high wool values, and therefore, of rising incomes. Total advances moved in 20 years in the opposite direction to graziers' incomes, but on eight occasions rising incomes were accompanied by higher borrowings.

The second test which yielded a similar result, was the coefficient of variation for the various series. Based on the 35 year series for columns I and II, and 34 years for columns III, IV, V and VI, the following results were obtained:

Coefficient of Variation	Graziers' Income		Graziers' Income ± Changes in Total Advances		Graziers' Income ± Changes in Net Advances	
	Actual I	Deflated II	Actual III	Deflated IV	Actual V	Deflated VI
V =	98·7%	80·6%	101·8%	80·4%	93·6%	77·0%

All series show a high dispersion over the years, which was to be expected as they include the extremely low incomes of the early 'thirties, and the high incomes for 1923-24, 1924-25, 1947-48 and 1948-49.

It is noteworthy that when graziers' income was adjusted by *net* advances the coefficient of variation yielded the lowest figure.

Deflated series yielded lower values for V than actual series. This is explained by the influence of costs and prices on both income and borrowings.

These tests confirmed the assumption that graziers' spending is usually less variable than their incomes. The results would have been more clear cut still but for the blurring effect of farm transfers during periods of high wool incomes. The coefficient of variation also demonstrated that it is not total advances but net advances which have to be taken into consideration when trying to obtain the likely multiplier effect based on graziers' incomes.

The influence of taxation was neglected when dealing with income going to labour and financial institutions. We were justified in doing so, as taxation on wage incomes for most of the years was probably not very significant, while relatively little of the income going to banks found its way to the consumer. But taxation on wool growers has a very definite effect on their disposable incomes. Present taxation legislation allows wool growers' incomes in most cases to be averaged over five years before a rate is assessed. This rate is then applied to the income figure for the year. If no income averaging took place, then high earnings would be taxed at higher rates and lower incomes at lower rates than at present. No doubt, the averaging of incomes before assessment is favourable to the wool grower in some respects. It means that over the years he has to pay less taxation than would be the case otherwise. But it also has the effect that he has to pay tax at a higher rate in low income years, than if his assessment were based on that year's income. In other words, the present system increases graziers' disposable income in high income years, and reduces it in adverse periods.

IV

The analysis of wool income's influence on the national income yielded certain conclusions. They are:

(a) That wool income is an important constituent of the national income, although, in the long run, its relative importance should get less marked.

(b) That the influence of changes in wool income on the national income has been much stronger over the post-war period than in earlier years. In fact, the 31 year wool income multiplier was about 20 per cent lower than the internal investment multiplier, mainly because of the importance of financial arrangements between graziers and lending institutions. During the post-war years graziers' spending was not curtailed by loan repayment, and there was a higher resultant value for the multiplier.

From a consideration of the secondary effect of changes in wool income on the national income we found that the three constituents of the wool growing team caused the following influence on the multiplier:

(i) Income going to labour has a multiplying effect of about 0.9 times its own value. This conclusion allows for some taxation and some saving out of wage income.

(ii) The effect of lending to wool growers and of the interest income from that activity is more complex. It seems that during certain periods of financial stringency the maintenance of primary producers' accounts caused a restriction on lending to other sectors of the economy. In normal periods no such reaction need be expected. Whether the repayment of loans in periods of high wool income acted so as to boost loans to other enterprises could not be established. But, as mentioned before, both these factors should be less important in future decisions about advances policy.

The multiplier value of interest income is bound up with banks' lending, reserves and dividend policies, and cannot be easily established. With an estimated £4m. interest income from graziers, out of a total wool income of nearly £200m. in 1948-49, there is little probability of a significant influence on the multiplier by this factor in recent years. But as interest payments were mostly higher when wool incomes were lower, they had an important bearing on the multiplier, particularly in those years when they were equal to or even exceeded graziers' net incomes. We may assume that on the whole the effect of interest payments to banks and financial institutions is a negative one in the year in which it is paid, with a slight positive effect one year later, when some of it is distributed in the form of dividends to shareholders.

(c) The behaviour of wool growers' net incomes may be considered for two separate periods, the thirty-two years from 1914-15 to 1945-46 showing a different influence on the multiplier than the post-war years which followed the resumption of auctions. The first thirty-two years covered years of mainly alternating high and low wool incomes. There were a few consecutive years of either high or low incomes, but as a rule there was no succession of years when both indicators of wool income—prices and production—moved in the same direction, as they have done since the war. It is not surprising, therefore, that practically all the 35-year series point towards a higher multiplier effect than calculations based on the shorter period. In the past most factors tended to dampen variations in graziers' expenditures in real terms. Reasons for this were found in the fixed nature of many production costs, and the possibility of

drawing on the funds of finance institutions. For the multiplier as such this considerable constancy in wool growers' expenditures may have meant relatively higher values in low income years, and relatively lower values when incomes were high. The latter was probably the case in years when loan repayments took place.

The incidence of income taxation, as has been seen, works in the opposite direction, and tends to increase expenditures in high income years, and lower them when incomes themselves are reduced. Another dampening factor is, however, provided by leakages of farm incomes overseas. On the whole, we may expect a downward pressure to be exerted on the multiplier by these factors, and the estimated difference between the secondary internal investment multiplier and the wool income multiplier (1.5 : 0.8) could be fairly close to reality. Once again, reference to the unreliability of some of the series used should be made. It is most unlikely that any individual relationship established is exact. But it is thought that, on the whole, the information obtained can be relied on to reflect their orders of magnitude fairly correctly.

During the post-war period most of the factors usually tending to lower the multiplier in times of high wool incomes became more or less inoperative. Steady wool incomes throughout most of the war period (1945-46 excepted) permitted the repayment of a high proportion of advances granted by finance institutions. Advances are regarded now as at "rock bottom" by banking experts, and can hardly be further reduced. The prevailing dollar shortage reduced the usual farm spending in the United States to a trickle. It is unknown at the time of writing to what extent the dollar loan to Australia will allow some of this expenditure to find its usual channel. Imports from other countries replaced purchases from the United States only to a minor extent. Two further factors work in the same direction. These are the preponderance of fixed costs in wool growing (most rise with changes in general prices rather than with changes in wool income) which had the effect of lifting the graziers' share by about 75 per cent over the average of 40 per cent of the wool cheque in 1948-49; and the averaging system of taxation assessment.

The multiplier depends on savings made out of a certain income. We have shown that over the 32-year period dissaving of the graziers' group as a whole tended to exceed dissavings by persons earning similar incomes in other sectors of the economy in times of low incomes. In the same way, but with less justification, we may also say that high wool incomes cause relatively higher savings than high incomes earned by other sectors of the economy. This is true only so long as net advances to wool growers decrease

pari passu with increases in graziers' incomes. On the whole, such reductions in advances occurred less regularly than increases. Therefore, the dampening effect on the trade cycle (and the multiplier) in times of high wool incomes occurs less regularly than when incomes are low. During the war and post-war years up to 1948 wool growers' savings increased as their incomes rose, but in 1948-49 and 1949-50 unprecedentedly high incomes have been accompanied by increases in advances to them. In other words, it is probable that money savings out of their greatly increased disposable incomes were reduced below those of the earlier post-war years. As it is unlikely that graziers' consumption could have been stepped up very much, it must be assumed that their savings were used for purchasing investment goods of a general nature. Information supplied by real estate agents seems to indicate that a fair portion of these savings were used for the purchase of urban property.

So far the argument has been outlined in terms of the wool income multiplier. Under conditions of over-full employment, as at present, the multiplier analysis as such tends to become unsatisfactory. The usual effect associated with the multiplier is an increase in productive activity, as effective demand increases. To-day the higher demand for goods and services cannot be satisfied by local production. An increase in imports, while helping to overcome this difficulty has not yet achieved any appreciable impression on excess demand. Therefore, any increase in demand finds expression in an increase in prices.

On the basis of long-term considerations it seems, therefore, that both the wool growers and other members of the Australian community would benefit, if some of the excess demand for investment goods originating with graziers could be deferred.[14] The advantages to the wool growers would lie in higher spending power in low income years, which would overcome paying interest on loans when such expenditure can least be afforded, lower income tax payments in the long run, and less dependence on the whims of the wool market. The general public would benefit through a lessening of demand for many important investment goods (and durable consumer goods), a consequent tendency of prices to become more stable, and higher effective demand in times of recession, provided that funds collected from wool growers are not spent by the government during the present period of shortages in goods and services.

S. P. STEVENS.

University of Melbourne.

14. This article was completed before the Budget for 1950-51 was introduced by the Federal Treasurer. This provides for an income tax pre-payment of 20 per cent by wool growers.

APPENDIX

TABLE I

Total Cost of Producing Wool

Year	Stores and Rations £000 I	Repairs and Maintenance £000 II	Farm Transport £000 III	Freight £000 IV	Drought Costs £000 V	Marketing Costs £000 VI	Cost of Plant £000 VII	Total Cost of Production £000 VIII
1914/5	1,267	997	153	953	8,546	626	923	13,465
1915/6	1,684	1,043	137	821	2,350	757	1,236	8,028
1916/7	1,624	1,307	139	837	736	1,058	1,217	6,918
1917/8	1,691	1,703	165	863	1,616	1,279	1,583	8,900
1918/9	1,742	2,118	225	1,012	3,526	1,352	2,946	12,921
1919/20	2,096	2,990	794	1,257	9,119	1,271	3,183	20,700
1920/1	2,471	1,863	661	1,164	—	719	1,643	8,521
1921/2	1,961	1,827	647	1,430	—	1,686	1,697	9,248
1922/3	2,018	2,118	571	1,460	3,061	1,722	2,255	13,205
1923/4	2,062	1,855	482	1,335	4,409	1,741	1,978	13,862
1924/5	2,054	2,093	550	1,639	320	1,659	2,229	10,544
1925/6	2,131	1,706	597	1,747	1,300	2,222	1,584	11,287
1926/7	2,132	2,479	689	1,938	2,150	2,097	2,642	14,127
1927/8	2,115	2,398	651	1,897	6,441	2,176	2,558	18,236
1928/9	2,155	2,647	680	2,058	1,906	2,212	3,279	14,837
1929/30	2,178	1,981	652	2,016	2,487	1,796	2,100	13,210
1930/1	1,890	1,484	1,141	1,935	262	1,667	993	9,372
1931/2	1,763	1,644	1,226	2,106	770	1,780	1,054	10,343
1932/3	1,655	1,718	1,244	2,014	1,937	1,952	1,195	11,715
1933/4	1,690	2,117	1,089	1,666	58	1,969	2,025	10,614
1934/5	1,745	1,571	1,112	1,676	1,268	1,957	1,000	10,329
1935/6	1,809	1,963	1,131	1,642	9,799	2,090	1,871	20,305
1936/7	1,870	2,096	1,192	1,581	1,544	2,307	1,996	12,586
1937/8	1,939	3,002	1,298	1,750	4,649	2,075	1,093	15,806
1938/9	2,054	1,609	1,241	1,704	6,956	1,964	1,022	16,570
1939/40	2,101	2,632	1,692	1,941	—	2,823	2,507	13,696
1940/1	2,146	2,944	1,404	1,998	12,990	2,706	2,805	26,993
1941/2	2,234	3,218	1,540	2,091	2,349	2,761	3,068	17,261
1942/3	2,404	3,669	1,683	2,020	891	2,897	3,495	17,059
1943/4	2,366	5,441	1,802	2,120	3,453	2,942	3,716	21,840
1944/5	2,377	2,544	1,657	1,795	12,635	2,546	1,615	25,169
1945/6	2,418	2,362	1,540	1,647	2,485	2,322	1,495	14,269
1946/7	2,459	3,332	1,561	1,646	3,917	2,990	3,174	19,079
1947/8	2,740	4,670	1,815	1,939	—	4,132	5,105	20,401
1948/9	3,155	5,613	2,045	2,279	—	4,966	6,137	24,195

TABLE II

Distribution of Net Wool Income to Members of the Wool Growing Team and Total Advances to Wool Growers by Finance Institutions over a Number of Years

Year	Value of Wool Produced less Costs £m I	Index of Agricultural and Pastoral Wages 1936/39 = 1,000 = £4.0.6 II	Wages Earned by Labour £m III	Total Advances to Wool Growers 1938/39 = 1,000 IV	Total Advances to Wool Growers £m V	Interest Payments by Wool Growers £m VI	Net Income of Wool Growers. I − (III + VI) £m VII
1914/15	15·5	551	7·2	682	71	4·2	4·1
1915/16	18·9	555	7·3	653	68	4·1	7·5
1916/17	33·4	614	8·1	565	59	3·4	21·9
1917/18	34·0	680	8·7	569	59	3·4	21·9
1918/19	32·6	703	9·3	547	57	3·2	20·1
1919/20	32·2	855	11·3	636	66	4·0	16·9
1920/21	29·1	1,001	13·2	629	66	4·0	11·9
1921/22	30·3	1,046	13·8	556	58	3·6	12·9
1922/23	42·4	1,024	13·5	543	57	3·5	25·4
1923/24	52·6	1,064	14·0	641	67	4·3	34·3
1924/25	69·9	1,067	14·1	729	76	4·9	50·9
1925/26	50·3	1,084	14·3	822	86	5·6	30·4
1926/27	55·3	1,160	15·3	1,076	112	7·3	32·7
1927/28	57·4	1,170	15·4	1,183	123	8·0	34·0
1928/29	56·0	1,191	16·7	1,284	134	9·4	29·9
1929/30	31·0	1,192	16·7	1,410	149	10·3	4·0
1930/31	25·4	1,086	15·2	1,388	144	10·2	Nil
1931/32	24·7	996	14·0	1,289	134	7·4	3·3
1932/33	26·9	928	13·0	1,401	146	8·0	5·9
1933/34	52·4	893	12·5	961	100	5·5	34·4
1934/35	30·1	911	11·6	970	101	5·6	12·9
1935/36	34·8	911	11·6	921	96	5·3	17·9
1936/37	51·5	941	11·9	888	92	5·1	34·5
1937/38	38·3	978	12·3	958	100	5·5	20·5
1938/39	25·5	1,022	13·0	1,000	104	5·7	6·8
1939/40	48·1	1,043	13·2	1,020	106	5·3	29·6
1940/41	36·0	1,061	13·5	892	93	4·7	17·8
1941/42	47·4	1,161	14·7	844	88	4·4	28·3
1942/43	56·0	1,387	17·7	830	86	4·4	33·9
1943/44	53·3	1,477	18·7	776	81	4·0	30·6
1944/45	38·7	1,483	18·8	750	79	3·9	16·0
1945/46	44·3	1,512	19·2	856	89	4·5	20·6
1946/47	78·0	1,602	20·4	687	72	3·6	54·0
1947/48	135·1	1,638	20·8	633	66	3·4	110·9
1948/49	170·4	1,909	24·2	651	68	3·5	142·7

Note: Net Wool Income has been calculated by deducting costs of production (Column VIII of Table I) from gross wool incomes for the same year as reported in Production Bulletins of the Bureau of Census and Statistics.

Index of Agricultural and Pastoral Wages based on figures of actual wages paid published by the Bureau of Census and Statistics. Total Advances to Wool Growers based on an index derived from data supplied by pastoral companies and adjusted for their rates of growth.

SOME PROBLEMS IN THE USE OF THEORY IN HISTORY

I. The meaning of theory.
II. Theory and history.
III. Economic theory and history.
IV. Historical method.
V. A general social-economic theory.

Discussions in the use of theory in history have raised questions which are very similar to those raised in the scope and method of economics. It is particularly necessary for the economic historian, and, perhaps the economist, that work done in these two distinctly separated fields should be brought closer together. In economics the discussion ranges from the *Methodenstreit* through the work of J. N. Keynes[1] and more recently that of Lionel Robbins.[2] Professor Robbins' important book has been followed by much discussion in journals and otherwise. In economic history some significant contributions were made by George Unwin[3] and more recently by J. A. Schumpeter.[4] In history the work of R. G. Collingwood,[5] Karl Popper[6] and numerous Marxist writers is well known. Similar problems have been raised in the wider fields of science and philosophy.[7]

The purpose of this article is to draw together some of the ideas derived from a study of all these related matters with a view to their clarification of some of the problems of economics and economic history. The central problem to be discussed here is whether some form of scientific method[8] should be used in history, or whether history should be a kind of empirical study in which no theory is used or in which some form of "idealist" or "materialist" attitude might be adopted.[9]

1. J. N. Keynes, *The Scope and Method of Political Economy* (1891).
2. L. Robbins, *The Nature and Significance of Economic Science* (1932).
3. *Studies in Economic History*: The Collected Papers of George Unwin, ed. R. H. Tawney (1927).
4. J. A. Schumpeter, "The Creative Response in Economic History," *Journal of Economic History*, Nov., 1947.
5. R. G. Collingwood, *The Idea of History* (1946).
6. K. Popper, *The Open Society and its Enemies* (1943) and "The Poverty of Historicism," *Economica*, 1944-5.
7. E.g.: Sir Arthur Eddington, *The Philosophy of Science* (1939); L. S. Stebbing, *Philosophy and the Physicists* (1937); M. Planck, *Where is Science Going?* (1933); J. W. N. Sullivan, *The Bases of Modern Science* (1928); and more generally, F. S. C. Northrop, *The Logic of the Sciences and the Humanities* (1948); J. A. Schumpeter, *Business Cycles* (1939) and *Capitalism, Socialism and Democracy* (1943); B. S. Keirstead, *The Theory of Economic Change* (1948).
8. By "scientific method" is meant the "normal" process of deduction from particular premises followed by induction, but more particularly "that science is less like a hoard of truths, ascertained piecemeal, than an organism which in the course of its history, undergoes more or less continuous alteration in every part" (R. G. Collingwood, *Autobiography* (1938), p. 7).
9. "Idealist" and "materialist" attitudes are defined in the course of the argument, see pp. 241-2.

I

Dictionary definitions of "theory" usually run: "Apprehension or analysis of a given set of factors in their ideal relations to one another . . . A general principle, formula, or ideal construction, offered to explain a phenomenon and rendered more or less plausible by evidence—the facts, or by the exactness and relevance of the reasoning . . . "[10] A theory is a description, it is imaginary or ideal. Normally a distinction is drawn between "scientific" propositions in philosophy and artistic creations. Normally a statement which is "very empirical," in the sense that it has not been worked on by "pure" scientists, and refined towards some degree of abstractness, is not admitted as a theory. If these distinctions do not centre in the closeness of the reference or "fit" of the statement or proposition, or even the creation, to the object to which they refer or relate, it is difficult to see any valid distinction at all. Of course, any statement, proposition or reproduction will be more or less influenced by the subjective nature, experience or perception of the scientist, philosopher or artist but this cannot be a factor which distinguishes the logical nature of the statement he makes. It would appear that in making a given observation we are all concerned with the same facts although we may not see them all or may see them differently. Max Planck writes:[11] "This alternative play of theory and experiment, of theoretical constructions on the side of abstract reason and the testing of these by their application to objective reality is a special characteristic of modern physics. Indeed it is of enormous significance in all scientific progress, for it is the one safe and sound source from which all reliable and enduring results can be produced." This approach to theory and reality, which Planck believes "is of enormous significance in all scientific progress," requires us to be clear about "objective reality." Planck sees it in this form:[12] " . . . the genuinely productive sciences are not based on pure logic but rather on the metaphysical hypothesis—which no rules of logic can refute—that there exists an outer world which is entirely independent of ourselves . . . The first and most important quality of all scientific ways of thinking must be the clear distinction between the outer object of observation and the subjective nature of the observer." Now, Planck does not mean that the outer world is entirely independent of ourselves in the sense that man cannot modify his environment, but he does mean that the outer world is not different as a result of acts of thinking about it differently, performed say, by Berkeley and Hume. The point of view does not change the facts, they are the same for every observer—however

10. See Webster's Dictionary for "theory."
11. M. Planck, *op. cit.*, p. 45.
12. *Ibid*, p. 198.

much or little he may see in them, or however much or little they may stimulate him.[13]

A theory can state something about "objective reality" in a comprehensible, intelligible way. It can bring out the "nature" of the data to which it refers. Theoretical analysis tells us more and more about data. One theory is better than another because it brings out more of the nature of the data. In this sense theory is always circular. There is no absolute, no independent "thing" which determines its truth. There is rarely anything "self-evident" or obvious or instantaneously reliable. A theory is always under process of continuous adjustment towards a better "fit" for the "objective reality" to which it refers as more and more of the nature of that reality becomes known.

Perhaps it may be said that it is unnecessary to state these things because they are so obvious and well known. However, arguments inconsistent with them have influenced a great deal the discussions about the use of theory in history and about the scope and method of economics. Some writers have broken into several parts what Planck sees as a *process* of "alternative play of theory and experiment" and they appear to decide that "truth" can be *located in one* of these parts.

For example, R. G. Collingwood identifies three parts: (a) the raw material of historical knowledge, (b) the various endowments of the historian, (c) the idea of history.[14] And he goes on to conclude: " . . . neither the raw material of historical knowledge . . . nor the various endowments that serve him [the historian] as aides to interpreting his evidence, can give the historian his criterion of truth . . . That criterion is the idea of history itself . . . That idea is innate . . . a priori." Collingwood, therefore, tends to see the historian " . . . as his own authority . . . his thoughts are autonomous, self-authorizing." Likewise Popper emphasizes very strongly at one stage that history is nothing but a point of view and " . . . every generation has a right to frame its own."[15] This is a similar attitude to that underlying the position of many American pragmatists where there is a tendency to see the "truth" in that which is effective, or that which works and the true point of view is that of the winner or the successful. Compared to these various schools of idealists—or people who really see "truth" in the mind or the idea—are those who see it located in the objective reality or in external conditions (external to the mind), in a particular way. This is often found in those influenced by Karl Marx, although

13. Collingwood does not appear to agree with this, see *op cit.*, p. 34.
14. R. G. Collingwood, *op. cit.*, p. 248.
15. K. Popper, *op. cit.*, p. 255

he criticized it in Feuerbach.[16] The significant thing about this "materialist" or "realist" attitude is not that "objective reality" determines the shape of ideas in the long run but that it does so instantaneously.

Instead of truth being seen as the growing product of the process of theory and experiment as defined by Collingwood and Planck, the "idealists" tend to see truth in existence at present in an idea to which "objective reality" must conform, and the "materialists" or "realists" tend to see truth in existence at present in the "objective reality" to which the idea must conform. The idealist conception gives rise to a subjective certainty which *cannot* be made subject to collective examination because the historian (and everyone else) is "his own authority . . . his thoughts are autonomous." The materialist conception gives rise to an equally subjective certainty which need not be made the subject of any collective examination because there is necessarily no room for doubt. Many of those people (including historians and economists) who are influenced by the idealist conception tend to over-emphasize great men, thoughts, ideas and policies in their statement of causes of social change.[17]

On the contrary many of those influenced by the materialist conception tend to over-emphasize inescapable necessity in their statement of causes of social change.[18] Their identification of truth in a particular place tends to influence them into seeing causes in a similar place. Very often those who talk about "historical necessity" are witnessing history which is going contrary to the way they think it should go, or sometimes it is because they have given up the attempt to find causes in a very complex situation. It might be expected that people who have achieved much, or who admire those who have, would be found among the idealists, while those who are the victims of a very difficult environment would be found among the materialists. This is very often the case and it strongly suggests an explanation.

Collingwood's practical suggestions on the method by which the historian should work ("selective archaeology") and his definition

16. K. Marx, *Theses on Feuerbach* (1859). See also Collingwood, *Autobiography*, p. 22: "The Oxford 'realist' talked as if knowing were a simple 'intuiting' or a simple 'apprehending' of some 'reality'."

17. E.g., see J. M. Keynes, *The General Theory of Employment, Interest and Money* (1936), pp. 383-4: " . . . the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is generally understood. Indeed the world is ruled by little else . . . sooner or later it is ideas, not vested interests, which are dangerous for good or evil."

18. E.g., see J. A. Schumpeter, *Capitalism, Socialism and Democracy* (1943), p. 129: "Things economic and social move by their own momentum and the ensuing situations compel individuals and groups to behave in certain ways whatever they may wish to do." (There is ample evidence to show that there are times when opposing ideas have no hope against the dominating "vested interests"; and that at other times "vested interests" can be overcome by ideas. Of course, vested interests have ideas too. What the position is can be discovered only by adequate inquiry, influenced as little as possible by *unconscious* presuppositions which determine or influence the result.)

of science, are fully consistent with what is regarded here as scientific method and Popper does not leave it at "one interpretation being as good as another." For later on he wrote: "But this does not mean of course, that all interpretations are of equal merit . . . First, there are always interpretations which are not in keeping with the accepted records: secondly, there are some which need a number of more or less plausible hypotheses if they are to escape falsification by the records; next, there are some that are unable to connect a number of facts which another interpretation can connect, and in-so-far 'explain'."[19] All this being the case it is difficult to see why Popper so strenuously argues that what he calls "historical interpretations" are so different from "scientific theories or laws."

II

When we turn to the question of whether theory can, or should, be used in history we find that there are many highly authoritative opinions against the use of theory and against "scientific history." This is not an attitude that has arisen alone because of differing terminology or meanings of "science."[20] Sombart has written: "A representative economic historian tells us (he does not stand alone, indeed he expresses a widely held opinion) that theory, far from being indispensable, is actually a nuisance to economic history; and moreover, the way in which economic historians have treated the subject shows that it is possible to manage without theory."[21] As for history in general it is possible to quote substantial arguments against the use of theory because the use of theory presupposes some uniformity in human affairs, which it is argued, is not present.[22] The case for the use of theory—or the *conscious* use of theory—in history, has been well put by W. W. Rostow: "The economic historian can evade less easily than his fellows the formal, the philosophical problem of the relation of theory to history . . . Perhaps the most useful lesson in this rehearsal of explanations is not for economists but for historians. Men observing honestly the same data emerged with quite different explanations. Each explanation depended entirely upon theoretical presuppositions. But more than that, the data selected as relevant depended upon these presuppositions."[23]

There are *inter alia* two important aspects to this statement. One is that historians do give different explanations of the *same* facts and the second is that there is a strong implication that all

19. K. Popper, *op. cit.*, p. 266.
20. This factor has had a considerable influence, see pp. 247-8.
21. W. Sombart, "Economic Theory and History," *Economic History Review*, January, 1929.
22. E.g., H. A. L. Fisher, *A History of Europe*, Preface.
23. W. W. Rostow, *British Economy of the Nineteenth Century* (1948), p. 3.

historians use theory or presuppositions of some sort. (The economic historian finds it most difficult of all to avoid theory.) Even if different historians are examining different aspects of the same complex set of facts, i.e., the economic aspect, or the constitutional aspect, or the social aspect, this is no reason why they should "emerge with different (conflicting) explanations."[24]

What Rostow is arguing, and what is being advanced here, is that we must be conscious, as far as possible, of the theory or presupposition we are using and instead of advancing one type of explanation in the belief that we are not using theory but are working as a craftsman, or are just being empirical, it is better to adopt the attitude that we are trying out more or less tested theories. What all historians are attempting to do is to advance some explanation, description or account of particular circumstances of general social behaviour. They do not attempt to deal with the behaviour of every individual person or incident but they attempt to provide a general statement. To the extent that it is general it abstracts from some details. These general statements should never be more abstract than is necessary to allow maximum analytical use to be made of them. But they should not remain complex or vague if simplification would prove useful in explanation of the given situation or in application to other situations.

Rostow's strong implication that all historians use theories of some kind is strengthened when we examine the work of many historians of which H. A. L. Fisher is, perhaps, the best-known example. Fisher concluded his study of the history of Europe: "I can see only one emergency following upon another as wave follows upon wave, only one great fact with respect to which, since it is unique, there can be no generalizations . . . "[25] Despite this definite conclusion Fisher's work is characterized by generalizations, theories, causal relations and inevitabilities.

These features which are revealed so clearly in Fisher's *History of Europe* are not uncommon among historians and the prominence given to generalizations, theories, explanations and even "inevitabilities"[26] makes it difficult to understand how history can be described as "unscientific," or that theory is not being used. It is likely that our history will be clearer and more authentic and

24. E.g., the *social* historian, G. M. Trevelyan, *English Social History* (1942), p. vii: " . . . the social scene grows out of economic conditions, to much the same extent that political events in their turn grow out of social conditions." And the *economic* historian, K. Marx, *Critique of Political Economy*, p. 2: "The mode of production in material life determines the general character of the social, political, and spiritual processes of life." (Neither of the above statements is intended to refer to every detail or every individual case but they are *general* statements or conclusions as to what *normally* happens.)

25. H. A. L. Fisher, *op. cit.*, Preface.

26. E.g., *Ibid*, p. 1017. In England: "socialism did not spring from the brain of a prophet, but was the inevitable result of human compassion working on the conditions of urban (and factory) life."

possibilities of agreement will be much greater if we make our presuppositions, and our interests as well as our theories or interpretations as explicit as possible—at least to ourselves.

III

Any well formulated theory of social and economic behaviour is useful in economic history. But the special contribution that the economic historian can make lies in the use of economic theory because he is supposed to have a better and more up-to-date knowledge of economic theory than most historians.

There are certain types of economic theory which are of little use in history because they do not consist of statements about factors which have anything to do with historical events.[27] They are found within the definition given by the "positivist" school. Professor Robbins considers that the whole of economic science consists of the study of " . . . human behaviour as a relationship between ends and scarce means that have alternative uses."[28] This includes only a study of human behaviour influenced by scarcity, but it is confined to that influence of scarcity which leads people to choose between different kinds of goods. Economic science is, therefore, the study of the behaviour of the choosing individual. Robbins writes: "We regard it (the economic system) as a series of interdependent and conceptually discrete relationships between men and economic goods."[29]

For economic theory to be "scientific," according to Robbins' requirements, it must be "positive"—it must hold true for all cases, it must be invariable like the laws of physics. Robbins believes that this type of "law" is obtainable by derivation from introspection, from elementary facts of experience, which are "self evident," which could not be other than they are.[30] This type of postulate can be generalized into a theory of static equilibrium in which the pressure of many *individuals* from many different directions (as it were) leads to a static or stable condition in which the pressure of any and every individual is seen to be negligible. To be "positive" and invariable, as required by Professor Robbins, it means that the conditions of the assumption must be the conditions of the economic world. If the economic world departs far from the conditions of perfect competition (that the pressure of each individual is such a small

27. Many years ago Menger stated that the "individual" was a methodological necessity for this type of theory. It is a necessity if the "laws" are to be positive and invariable in the sense required by Professor Robbins.
28. Robbins, *op. cit.*, p. 16.
29. *Ibid*, p. 17.
30. *Ibid*, p. 79: " . . . the chief postulates are all assumptions involving in some way simple and indisputable facts of experience . . . they are so much the stuff of our everyday experience that they have only to be stated to be recognized as obvious."

proportion of the total as to be negligible) these "laws" lose all their "positive" characteristics. What is more they appear to be pretty useless for *any* purpose.[31] They are of little use in history because they *cannot* refer to those factors or forces which bring about change and activity in the economic and social world.[32]

Emphasis upon this type of static equilibrium theory began, as Robbins points out "with the coming of the subjective theory of value,"[33] and it allows the statement of "laws" of apparently great precision. This was the kind of statement people familiar with the general features of classical physics (their model of what a science ought to be) and people influenced by idealist or positivist philosophy (in their many variations), felt that economics *must* be if it was to be a science. One historian of economic thought, although giving plenty of weight to the influence of philosophical presuppositions, considers that the main reason for the development of this kind of theory, which he sees beginning back in the 1820's and not in the 1870's, was a desire to explain away the labour theory of value.[34] That modern physics, i.e., after the quantum theory, does not now possess these "positive" characteristics can be seen from the works of Planck, Eddington, Stebbing and Sullivan referred to already.[35] Modern physics has had to be concerned with a "definition of state" different from that of classical or Newtonian physics and so it has lost some of the mechanical certainty classical physics possessed, when it could start from a "self-evident" postulate such as Sullivan considers Newton started from: "it seems probable to me that God in the beginning formed matter in solid, massy, hard, impenetrable, movable particles, of such sizes and figures, and with such properties, in such proportion to space, as most conduced to the end for which he formed them."[36] For science to proceed it would appear that all that is necessary is that indicated by Planck: " . . . if we wish to establish a truth by the process of deductive reasoning the principle from which the deduction proceeds must be accepted as absolute."[37] That is to say, absolute for that particular process of reasoning and for its results. It will be absolute in the other sense only in so far as the "objective reality" to which the "principle" refers continues uniformly the same.

31. E.g., see J. R. Hicks, *Value and Capital* (1939), p. 83.
32. See J. A. Schumpeter, *Theory of Economic Development* (1911), and F. H. Knight, *Risk, Uncertainty and Profit* (1921), from which it would appear it is really departures from perfect competition that count.
33. L. Robbins, *op. cit.*, p. 65.
34. E. Roll, *A History of Economic Thought* (1938), pp. 370-377.
35. E.g., M. Planck, *op. cit.*, p. 198: "Over and over again in the history of science it has happened that concepts which at one time were looked upon as absolute were subsequently shown to be only of relative value and this is exactly what has happened in regard to the former concept of space and time."
36. J. W. N. Sullivan, *op. cit.*, p. 27.
37. M. Planck, *op. cit.*, p. 195. Surely nothing more *positive* than this is necessary for economics.

IV

It is here that we need to be clear about the meaning of "scientific method" and of the features an inquiry needs to possess for it to be "scientific." We have seen that the positivist requirements are those of classical physics—postulates which are accepted as absolute or indubitable and their deduction to laws. Induction is little used. The importance of R. G. Collingwood's[38] work is that he emphasizes that this kind of science is not enough for history (nor would it be for economics). History, and much of economics, requires "historical method." Collingwood believes that "at the end of the nineteenth century something of the same kind (that which happened to natural science in Galileo's time) was happening, more gradually and less spectacularly perhaps, but not less certainly to history."[39] There seems to be hardly any doubt that quantum theory in physics "brought about a radical revolution in the scientific interpretation of natural phenomena."[40] There are some opinions that it has influenced an equally revolutionary change in our every day ways of thinking.[41]

History, Collingwood believes, is not the acceptance of "authorities" and not, perhaps, the acceptance of indubitable postulates, "but it is much more like Bacon's notion of science." Physics had become by 1898 more than the acceptance of particular premises plus deduction, it had to go in for new "definitions of state." It had become almost historical. Collingwood emphasizes that "all scientific knowledge (is) dependent on historical knowledge." This means that observation—accepted premises—deduction—induction, is not enough. The classical physicist, it would appear, did not have to concern himself with history—his world did not change.

The historian and economist cannot afford to follow his lead. They cannot afford to observe, accept premises and then spend months or years working deductively upon the contents of their "model" or they are likely to tell an incomplete or out of date story. The historian, and no less the economist, has to live in, and with his material. His observations, deductions and inductions should never be far separated. It is not enough for the historian and economist to think only about economic "independent variables" and such things, he has to get through to the *thought* of the event.[42] Collingwood, it would appear, leans towards Bacon because he emphasized the need for men to "force themselves for awhile to lay their notions [ideas, postulates, theories and laws, presumably]

38. E.g., *Autobiography*.
39. *Ibid*, p. 56.
40. *Ibid*, p. 57.
41. Introduction by James Murphy to Planck's *Where is Science Going?*
42. "Historical knowledge is the re-enactment in the historian's mind of the thought whose history he is studying" (Collingwood, *op. cit.*, p. 77).

by and begin to familiarize themselves with facts.''[43] Facts, of course, do not speak for themselves; we need, and cannot avoid, ideas, theories and laws to recognize and understand them and historical method is much more than empirical observation. Bacon believed that ''The logic now in use serves rather to fix and give stability to errors'' and rather than this he advocated ''rising by a gradual and unbroken ascent'' from facts to ''general axioms.'' Historical method requires flexibility rather than rigidity, it requires premises to possess very relative and never absolute value, and it requires the historian to work very close to the facts. It requires his history to grow with his knowledge.[44]

In order that different observers should have the best chance of reaching agreement when they are working from different points of view and in different ways, several things are required:

1. The data examined must be the same for each. This means that each observer has access to the same evidence and that he does not make statements about aspects of it without having properly examined them.
2. If this ensures that significant causes of difference between the observers are not in the data then they must be in the observer. This would mean that
   (a) each observer must do his best to recognize the theory or presupposition which influences him and avoid or at least recognize the influence of any idealist or materialist presupposition;
   (b) each observer must use historical method, e.g., he must work as close to his facts as possible, allowing for changes in his theories as his knowledge grows.[45]

V

The type of economic theory most useful in economic history is that kind which refers to the economic system as a whole, or to large or socially significant groups within it, and that type of theory which refers to factors or events which are believed to determine changes over time. Any form of social theory can be useful but economic theory is the most important.

43. This emphasis is perhaps no more necessary in any one field of inquiry than in another but it is a mistake to think that it is true only of *lay* thinkers on social and economic problems (e.g., Marxists, Henry Georgians, Social Creditors, etc.), who like Omar Khayyam when young " . . . evermore Came out by the same door as in I went." Indeed as distinct from Omar Khayyam this characteristic is very often a function of age.

44. "I soon realized that the history of political theory is not history of different answers given to one and the same question but the history of a problem more or less continually changing whose answer was changing with it" (Collingwood, *op. cit.*, p. 46).

45. There cannot be any doubt that inaccurate and inadequate theory has been tenaciously held because theorists have lived too much in the world of deduction and not enough in that of observation. This is still true. What was true before the Keynesian Revolution is still true of much model building with the aid of Keynesian theories.

For many years, whilst economic theory was considered alone or mainly of the static equilibrium type, it was believed to deal with things different from the subject matter of economic history.[46] For instance, Unwin wrote: "Economic history differs, then, from economic theory in that it deals much less with individual actions and motives, and much more with the actions and motives of groups."[47] And Schumpeter believed that the study of "economic development" was "so far simply the object of economic history."[48]

However, in recent years economic theory has moved away from a foundation of "self-evident" postulates and has come round to deal with group problems, with the economy in general and with economic development over time. Many of these aspects were prominent in economics before the "coming of the subjective theory of value,"[49] but they were to return in the modern era foreshadowed by the contribution of an economic historian, Sir John Clapham, in an article—"On Empty Economic Boxes"—in the *Economic Journal* in September, 1922. From this stimulus developed theories of imperfect and monopolistic competition.[50] Perhaps the most important modern influence in this reapproachment of economics and economic history was the publication in 1936 of *The General Theory of Employment, Interest and Money* by Lord Keynes. Although this latter is in a static equilibrium form it has led to attention to factors which do determine historical events and to attention to the economy in general and in a manner which does not consist of deduction from only self-evident postulates. These developments have encouraged economists to become interested in *actual* change in the economy. But they have already discovered that the static method of analysis is restrictive.[51] Another aspect of economics, institutional studies, has developed until theory is emerging from what has so far been exclusively or predominantly an empirical field.[52]

This more general and historical form of economics provides

46. E.g., Professor Northrop in his article, "The Impossibility of a Theoretical Science of Economic Dynamics," *Quarterly Journal of Economics* (1941), which in 1948 appeared in his book, *op. cit.*, Ch. XIII, "The Method and Limited Predictive Power of Classical Economic Science," writes: "This . . . restricts itself, as did Lionel Robbins' important treatise on the *Nature and Significance of Economic Science*, to classical Austrian theory." "Classical Austrian theory," therefore *was* the whole of economics.

47. *Studies in Economic History*, p. 33.

48. J. A. Schumpeter, *op. cit.*, p. 58.

49. Several writers have stated that recent developments in economics are merely a return "to the old traditions of political economy" (B. S. Keirstead, *op. cit.*, p. 5). And see Roll *op. cit.*, p. 506. Alfred Marshall emphasized that static analysis was by far from *all* that was economics: see *Principles of Economics* (8th ed.), p. 461: " . . . economic problems are imperfectly presented when they are treated as problems of statical equilibrium and not of economic growth."

50. See the well-known works of Joan Robinson, E. H. Chamberlin, R. Triffin and M. Kalecki.

51. See R. H. Harrod, *Towards a Dynamic Economics* (1948), and E. D. Domar "The Problem of Capital Accumulation," *American Economic Review*, December, 1948.

52. This type of theory stems from the work of T. Veblen and is found in such forms as J. Burnham, *The Managerial Revolution* (1943); Berle and Means, *The Modern Corporation and Private Property* (1935); and A. R. Burns, *The Decline of Competition* (1936).

theory of varying levels of abstraction which can be summarized as follows:

(a) Theory of changing economic quantities, i.e., theory which deals with the general levels of employment and income and determinants of changes in them.[53]

(b) Theory of static social relations, i.e., a theory of value, or of the composition of prices and income distribution in conditions of imperfect or monopolistic competition.

(c) Theory of changing social structure, i.e., theory which deals with the technical growth of industry and the proportions of the various economic classes or groups to one another.

This type of economic theory has provided the economic historian with very valuable aids but it is not enough for it to be "dynamic." The economic historian really requires *historical* theory and he needs theory which deals with the relations between the economic part of society and other parts. It has already been argued that the economic historian cannot avoid using theory but to be *historical* his method must keep him close to his raw material, he cannot accept premises from elsewhere, and then spend his time in deducing from them. The economic historian must live in his material unrestricted by any methodological or other attachment for any postulate or set of postulates. As for his generality, Rostow, for instance, believes that the economic historian has to be concerned with "three different levels of society": "It is a useful convention to regard society as made up of three levels . . . these three levels are normally designated as economic, social and political . . . The economic level of society imports a variety of impulses to social and political life . . . but it also receives back from social and political life other impulses which affect its course."[54] The economic level would consist of what Marx called the "mode of production"—factories, shops, farms, etc. The political level would consist of the machinery by means of which general laws are made and administered and the social level includes what is not economic or political—education, religion, culture, etc.

In economics the equilibrium method of analysis, whether partial or general, takes the social and economic structure for granted and states its laws as though there was no exchange of "impulses." Keirstead properly emphasizes that " . . . it is now apparent that a general theory of economic change must relate the various major causes of change and explore their inter-relationships . . . It should include the institutional channels through which the process operates,

53. See B. S. Keirstead, *The Theory of Economic Change* (1948), wherein it is argued than an adequate theory of the determinants of change in an economy defines, at the same time, an "area of decision" for social and political policy.

54. W. W. Rostow, *op. cit.*, pp. 134-135.

its effects on these institutions and the possibility and method of social direction and development."[55] Why? Simply because no statement about, say, the "determinants of income and employment" or changes therein can possibly be accurate unless it takes these matters into account. Harrod's "Gn" and Domar's "a" and "s,"[56] just as also Keynes' "marginal efficiency of capital," all depend partly upon social and political factors and human motives and once we are concerned with changes over time we cannot properly make use of them, without serious risk of error unless social, political and psychological factors are taken into account. It is not a matter that these factors are influenced in the social or political sphere and that if inquiry is carried on there it is social or political science, *it is merely a matter of following an inquiry into the effect of scarcity on human behaviour as far as it properly leads.* Let us give up calling this "politics" for no better reason than that most of those who wrote our textbooks and defined the scope of economics grew up during the predominance of *laissez-faire.* It seems that the decision on what we should examine, or how far we should go, should not be made on *a priori* philosophical or methodological grounds, but alone on the ground of what scope and content is necessary if we are to answer the questions that a scientific study of the effects of scarcity upon human behaviour will raise.

Immediately we pass beyond examination of postulates derived from individual introspection or beyond static analysis we are concerned with the question of the variability of human behaviour. Robbins, requiring as he does that economic "laws" must possess an invariable and positive nature believes that economics cannot be concerned with such things and still be scientific. He says: to " . . . frame a complete theory of economic development . . . (we must be able) to ascertain once and for all the elasticities of demand for all possible commodities and the elasticities of supply of all factors."[57] This he believes we can never do, and therefore, such a theory is not possible. Robbins believes that "our economic Laplace must fail in that there are no constants in this sort of system."[58] The quality of a scientific theory is not alone determined by the certainty with which it can be stated. Empty it of all content, make it completely abstract, and it can never be disproved. Given that all other factors are securely bound up in *ceteris paribus* all theories—even theories about how human beings have behaved or do or will behave—can be stated with absolute certainty.

55. B. S. Keirstead, *op. cit.*, p. 99.
56. See R. F. Harrod and E. D. Domar, *op. cit.*
57. Robbins, *op. cit.*, p. 131.
58. In his Preface to Planck's *Where is Science Going?* Einstein wrote: " . . . how small a part of nature can . . . be comprehended and expressed in an exact formulation while all that is subtle and complex has to be excluded." Does this mean it has to be excluded from "science"? Certainly not.

The important thing is that premises based on human behaviour should not be treated in the positivist scientific manner. They cannot be incorporated into postulates which are made the subject of never-ending deduction without serious risk of error. Collingwood is right when he says that we must use historical method when we are dealing with society. This is true for economics which does deal with human behaviour just as much as it is for history. Economics and economic history cannot have a different subject, it is mainly that they are concerned with different time periods. For this both economics and economic history must have a theory of human motive or response. There has been a tendency to fix "motives" in the human mind as a result of what the economist considers *should* be the motives for a particular kind of behaviour.[59] The "identification" of these "motives" which tend to become the secret of it all, as it were, do not add anything to our understanding gained from identification of the behaviour alone.[60] Identification of "motives" in this sense tends to shift them out of the social or environmental system altogether. The result is that they are very often untestable in any scientific sense. What is needed in this part of economic theory is the statement of those kinds of human *behaviour* considered relevant or important in an objective testable manner. We are concerned with human response to certain identifiable conditions and stimuli. Response can be divided into two parts. It is either habitual or common, creative or uncommon.[61] Now, Schumpeter considered that we would have no difficulty with "habitual responses" but even "from the standpoint of the observer in full possession of all the relevant facts, it (the creative response) can always be understood *ex post,* but it can practically never be understood *ex ante.*" We should have no difficulty in making an objective statement of "habitual responses" either in economics or history. Schumpeter sees no great difficulty in writing the *history* of "creative responses," but the main difficulty is in prediction of them. If this were all there was to it the difficulty would not be relevant to history and perhaps not to the greater part of economics. However, this is not all there is to it. For if we *do* know *"all the relevant facts,"* we should be able to predict even creative responses, the real difficulty about them *ex post* is the same as that *ex ante*: *it is to discover all the relevant facts.* Creative responses can be stated objectively just as can habitual responses. We *might* be wrong and perhaps we are more likely to be wrong about creative responses, but the essential

59. See for example some of the "motives" which are fundamental in Keynes's *General Theory*; psychological "propensities," and "attitudes," pp. 90-1 and 246-9.

60. All relevant "motives" seem to consist of desires for satisfaction. The form taken by the acquisition of satisfaction can be discovered only from behaviour.

61. See J. A. Schumpeter, "The Creative Response in Economic History," *Journal of Economic History,* November, 1947.

point is to make an objective statement which can be incorporated into a theory and tested. In order to do this we have to move far away from economics restricted to its static and individual introspection features. Motives, subjective feelings are unsuitable because they cannot be objectively identified. Behaviour has to be stated objectively not introspectively and it must be historical not static.

In the social sciences generally it is better to be approximately correct about something which is of social importance, something which is objective, than mathematically precise about something which is emptied of objective content by introspection and which is something which necessarily affects no one even though it might have explanatory value. It is clear that the wider political-social-economic field is that in which the economic historian must work, for it is an interdependent and interrelated field into any corner of which his search for the effects of scarcity upon human behaviour will take him. It is to be hoped that he will continue to receive as much help from the economist as he received before the coming of the subjective theory of value, and as he has received since its decline.

J. F. CAIRNS.

University of Melbourne.

NEW INDUSTRIAL TRIBUNALS IN NEW ZEALAND

I. Introduction.
II. Waterfront Industry Authorities.
III. Railways Industrial Tribunal.
IV. Post and Telegraph Staff Tribunal.
V. Government Service Tribunal.
VI. Hospital Board Salaries Advisory Committees.
VII. Other Wage-fixing Authorities.
VIII. State Service Tribunals—Methods.
IX. State Service Tribunals—Results.
X. Tribunals and Politics.

I

This article is concerned with the growth in New Zealand in the past ten years, of wage-fixing tribunals for particular groups of employees, separate from the Court of Arbitration. This trend is of economic interest because of the problems it raises for a balanced policy of stabilization of wages and other costs of production. And it is of political interest for several reasons—chiefly as another example of the difficulty of removing an inherently political issue "out of politics."

The new tribunals are still very much in the experimental stage, and have not settled into anything like a uniform pattern. On the other hand, there was some uniformity in the conditions which led to their establishment. The basic common factors were: the political and administrative embarrassment involved in Ministerial determination of working conditions in a key industry or service; strongly organized unions, in some cases causing or likely to cause serious interruptions to economic activity in the course of disputes; and the problem of stabilizing wages and living costs during and after the war.

II

The first experiment was made on the waterfront. The elements of casualness of employment, irregularity of working hours, and danger to the worker have given stevedoring work a turbulent industrial history the world over. The waterside unions have always been amongst the most militant in New Zealand. Since 1924 they have in general not sought to have their conditions determined directly by the Arbitration Court preferring collective bargaining with the employers for agreements which were then registered as awards with the Court. In 1938 the current award expired and bitter negotiations for a new award, punctuated by stoppages, were still abortive at the outbreak of war in September, 1939. The

Labor Government, after fruitless consultations with both sides of the industry, decided that an independent authority was necessary to secure an efficiently working waterfront, and in April, 1940, appointed a Waterfront Control Commission of three members, with full powers under war regulations to organize the engagement and employment of wharf labour (private stevedores—mostly shipping companies—still being the employers), to fix the conditions of work for such labour after hearings similar to those in the Arbitration Court, and to settle disputes—a function which had suffered by delays and inconclusiveness under the previous machinery of Local and National Disputes Committees. The Commission was headed by an ex-master mariner who had chaired *ad hoc* industrial tribunals under various governments, and who was at the time a Conciliation Commissioner. The other members were drawn from the employers' and union sides of the industry respectively (the latter had been national secretary of the Waterside Workers' Union), but they did not have a representative status. The Commission's wartime achievements were impressive, but neither side of the industry liked it, and after the war, as the government insisted on retaining some form of Commission control, the parties sought re-constitution with representation.

There followed a succession of authorities each of slightly different composition, each including representatives of the employers and the union, and each of which failed in turn through the irreconcilability of the shipowner and union points of view. The Waterfront Industry Commission which replaced the original body in June, 1946, ended in complete deadlock in January 1947. It took most of 1947 for the union and the government to agree on a new Commission which took office in November, and collapsed about the middle of 1948 with the resignation of the union representatives over a dispute originating in complaints about the hatches of the freighter *Mountpark*.

In November, 1948, the government established a new full-time Waterfront Industry Commission, presided over by the former General Manager of the Commission, and including one nominee each of the employers and the union. The Chairman retains his administrative functions as General Manager. At the same time a part-time Waterfront Industry Authority was constituted under the judge who was chairman of the defunct Commission, together with two employer and two union elected representatives. The Commission was vested with powers of deciding disputes and conditions subject to appeal to the Authority, though it could not issue any order prescribing terms or conditions of general applications except by its own unanimous decision, or pursuant to a decision

or direction of the Authority. The Authority was empowered to deal with "matters of a judicial or legislative character" referred to it by the Commission or by way of appeals from Commission decisions by the employers or the union. Both sides gave the same pledges as before to respect the decisions and the integrity of the two tribunals, this time in writing.

At the present moment (September, 1950) the Waterfront Industry Authority is in the middle of its second crisis. The first began in February, 1949, when after deciding a number of smallish disputes the Authority dealt with an application by the union for an overall basic rate increase of one shilling an hour for waterside work. Dissatisfied with the majority's decision on this claim, the workers' representatives, being the national President and Secretary of the union, organized a protest campaign involving stoppages, restriction of hours of work, and a series of pamphlets vilifying their colleagues on the Authority. Punctuated by Ministerial intervention, legal actions, and union deputations to the Prime Minister, this campaign culminated at the end of September 1949, in the Minister of Labour (himself formerly considered a radical among Labor Party leaders) dismissing the union representatives from the Authority for "misconduct," and declaring them ineligible for membership of the Authority or the Commission.

In January of this year the Union asked the new National Party government to re-establish the Authority, and on 2 June that was done, on the same lines as before, the Union electing two new representatives as the dismissed nominees did not seek election —"owing to pressure of work," as they put it. The government rescinded the power of the Minister of Labour to suspend orders, directions or decisions of the Waterfront Commission, one of the main bones of contention between the Union and the previous Minister.

In July the Authority, with the workers' nominees dissenting, increased the basic pay rate from 4/- to 4/3 an hour after hearing the union application for a 2/- increase. On this the union secretary commented: "Once again the workers have been given the answer that the maintenance and improvement of their conditions cannot be obtained through courts and tribunals."

On 3 August the government promised a Royal Commission into the whole of the organization and conditions in the industry, and invited all interested parties to suggest terms of reference. The union accepted this and promised uninterrupted work on all wharves in the country pending the Royal Commission's findings. But a few weeks later the union staged a nation-wide strike against a decision of the Authority, sequel to a short stoppage at Wellington in June

over rates of dirt-money. This was ended in a few days on the basis of an agreed formula, after mediation by the Prime Minister, the Minister of Labour, and the Leader of the Labor Opposition, and after the declaration of a state of national emergency under a Depression-vintage Public Safety Conservation Act. It will be interesting to see whether the Royal Commission will be able to rationalize the use of the arbitration system in a context where "acceptance of independent judicial decisions" is not a major premise.

III

The next permanent wages tribunals to be established were the Government Railways Industrial Tribunal and the Post and Telegraph Staff Tribunal. These are concerned with employees of the two largest government departments, both being outside the jurisdiction of the Public Service Act and Commission, but comprising between them some 44,000 government servants compared with 31,000 in the forty-odd departments under Commission control. (Neither figure includes the 20,000 casual employees of the Commission, nor the main body of 10,000 primary and secondary school teachers, the bulk of whom in theory are local body employees.)

The organized railway employees in New Zealand have almost as consistent a record as their post office colleagues of pacific relations with the management, and this is a factor of vital importance. When they did not get satisfaction on conditions from management, they followed in the past the traditional practice of large unions of negotiating direct with Ministers.

During the early years of the late war, and before, such negotiations had been going on for a considerable time, mainly for improved rates of pay, with results disappointing to the employees. The four railway unions asked the government in December, 1943, for a mandatory body to fix conditions without reference to the Minister, and it seems that the Minister of the day welcomed this proposal as a means of relieving him of the pressure of the associations, and the government of the responsibility of deciding the complicated and costly issues involved. Accordingly the Government Railways Act was amended in 1944 on lines endorsed by the unions, transferring full powers to fix wages and conditions from the Governor-General-in-Council to a Government Railways Industrial Tribunal.

The Chairman was a magistrate chosen by agreement between the organizations and the Minister. One member was appointed by the Minister as government representative. The third member was nominated jointly by the four unions, to represent the staff side. The tribunal was to be assisted by two assessors, one chosen by the

Department and one by the organization currently submitting a claim. The divided jurisdiction of two of the unions over tradesmen was recognized by allowing both to appoint assessors for the hearing of claims to which both are parties. In such cases the Department may also appoint two assessors. The assessors participate without vote in the deliberations of the Tribunal, but are not parties to its decisions.

Thus the Tribunal is modelled generally upon the pattern of the Court of Arbitration. The latter consists of a Judge, and two members nominated respectively by organized employers as a whole and organized workers as a whole. The device of "assessors" fully availed of under the Railway Tribunal resembles a provision rarely if ever used by the Court, by which it may have direct recourse to expert advice if it wishes. As with the Court, decision of the Railway Tribunal may be made by majority vote, and so in theory there is nothing to prevent a Tribunal decision from being made by the official and staff representatives against the vote of the Chairman—though in practice that has not happened yet. Normally, orders of the Tribunal must remain unaltered for at least a year.[1]

So far the Railways Tribunal has not had the chequered history of the various waterfront authorities. It brought down its first general wage findings in February, 1945, giving an average wages increase to the manual workers of about 12 per cent, and to the white collar workers increases ranging from £30 to £45 per annum. Additional decisions liberalizing conditions were given in March, 1945. Representatives of the unions expressed disappointment with the amount of their gains, but undertook to abide by the Tribunal findings. One general secretary said that the decisions generally had justified the policy of the organizations in asking the government for a mandatory tribunal. After the Tribunal's second main batch of decisions in October, 1945, another official stated:

> In spite of disappointments here and there, and with two sittings of the Tribunal to look back upon, I am satisfied that the present Tribunal is the best method that has been devised up to date of reviewing the many complex problems relating to wages and conditions within the railway service.

Such as been the general atmosphere surrounding the subsequent proceedings of the Railways Tribunal. It has settled down into a routine of annual hearings, at most of which its findings have represented a compromise between employee "claims" and departmental "submissions." It is the regular practice for the log of

1. For a fuller account of the constitution and functions of this tribunal see T. P. Davin, "The Government Railways Industrial Tribunal," in N.Z. *Journal of Public Administration*, Vol. 7, No. 2, March, 1945, pp. 21 f.

claims to be discussed in detail between union and departmental representatives before the hearings start. At these preliminary discussions, the department may and often does agree not to contest certain claims, and states its objections and the degree of opposition it intends to offer to others. The parties then go before the Tribunal and argue these matters out with full knowledge of each other's attitudes and arguments. With such relations prevailing, and confidence in the Tribunal's personnel on both sides, the Tribunal has worked fairly smoothly.

IV

The Post and Telegraph Joint Advisory Council system inaugurated in December, 1940, could make recommendations to the Director-General on staff matters generally, improvement of office machinery and organization and "working conditions." Questions of remuneration were usually settled ultimately by negotiation between the Post and Telegraph Employees' Association, the Director-General and the government. When the Railways Industrial Tribunal was first under discussion, the postal employees' organization indicated to the government that they did not wish to come under any omnibus tribunal for government servants, but would accept an advisory tribunal to determine their own conditions and remuneration, the Minister having the final say. Later in 1944, the Post and Telegraph Act was amended, recognizing the advisory council system, and providing for the setting up of a Post and Telegraph Staff Tribunal of three members, one to be nominated by the Association, one representing the Minister, and a Chairman to be agreed upon between the Minister and the Association. The Director-General and the Association could each appoint one assessor with functions similar to those on the Railway Tribunal. All except the Chairman were to be officers of the department or of the Association.

The functions of the Tribunal were to inquire into and report to the Minister upon matters of disagreement between the Director-General and the Joint Advisory Council, or other matters referred to it by the Minister, the Director-General or the Association after the other parties and the Joint Advisory Council has had reasonable opportunities of considering them. The Tribunal's functions extended to remuneration, and it was required to have regard to the general purpose of the Economic Stabilization Emergency Regulations (now the Economic Stabilization Act, 1948).

The Tribunal was not set up nor brought into operation, however, until late in 1948. In the meantime post office employees benefited from such general wage increases as were given to all government servants, from minor adjustments made through the

advisory council system and from a comprehensive general regrading which had been postponed during the war but operated as from 1 April, 1946.

V

The Government Service Tribunal is the latest addition to the list of independent wage-fixing authorities.

When the railwaymen asked for their Tribunal in December, 1943, the government asked employee organizations in other branches of the public service whether they wished for a similar authority to cover them. At first they demurred. At the time, manual employees, e.g. in the public works department, negotiated on conditions through their union with the Engineer-in-Chief and the Minister. Most ordinary public servants under the Public Service Act had their broad salary scales fixed by Order-in-Council, and other conditions by regulations made by the Public Service Commissioner. They had one principal organization, the Public Service Association, which had habitually negotiated conditions with the Commissioner and both conditions and remuneration directly with Prime Ministers or Governments. By 1947, the Association's leaders had come to favour a tribunal as a preferable means of determining their members' conditions, and said so at the association conference of that year and the following. The Public Service Commissioner system had been replaced in 1946 by a three-man Commission (one of whom was nominated by the P.S.A.) and the Association considered that the new Commission was not prepared to "negotiate our economic claims as they should be negotiated between employer and employee. The Commission had in fact appointed themselves a Tribunal to hear and dispose of representations from the Association as they thought fit." So declaring, Association representatives approached the Labor government for an independent tribunal and were told to put their proposals in writing.

Another issue, however, had arisen at the same time. The Public Service Association joined with other government service organizations in asking for a general increase of 10/- a week in line with a standard wage pronouncement, effective from October, 1947, made by the Arbitration Court. At the same time the organizations claimed that this flat rate increase if applied (as it was) to the whole Service, would upset margins and create anomalies, particularly as regards tradesmen and clerks. A joint committee representing official and staff sides (known as the "Margins and Anomalies Committee") examined this problem through most of 1948, but towards the end of the year the government announced that it would not accept the committee's recommendations for special increases for the grades in question, but would set up a permanent government

service tribunal to which the questions would be referred, so far as concerned staff outside the railways and postal departments. The organizations on the other hand, had wanted margins and anomalies settled before any tribunal was created.

As might be expected, the Public Service Association claimed that the government had broken faith, and refused to discuss the proposed tribunal until the committee's report had been dealt with. But the government went ahead with its Bill and established the Tribunal early in 1949. Its constitution was similar at first to that of the Railways Tribunal. Its three members were to be appointed by the Governor-General on the recommendation of the Prime Minister. The Chairman must be a Judge or Deputy Judge of the Court of Arbitration. The employee representative was to be nominated jointly by the prescribed Service organizations (with provision for appointment in default of nomination, a precaution taken because of the Public Service Association's attitude at the time). Assessors were provided for as under the Railways Tribunal. After a period during which the Public Service Association negotiated for changes (though accepting Tribunal decisions meanwhile), the legislation was amended to facilitate joint nomination by the unions of a staff representative, with the Association participating; to give the assessors power to vote and take part in Tribunal decisions (a novel provision); and to enable the parties if agreed to submit a case to a Conciliator before taking it to the Tribunal for final determination. All parties concerned agreed to these amendments, and the Tribunal went to work.

The Tribunal has made a number of orders covering various groups of clerical, professional and manual workers, public service teachers, and the main body of teachers who were brought under its jurisdiction by regulation soon after its establishment. The operations of this Tribunal are discussed in a later section.

VI

Different from any of the other tribunals in some respects are the Hospital Board Salaries Advisory Committees established in 1947 after representations had been made for the setting up of a Nurses' Wages Board. These deal with salaries and conditions of Hospital Board employees not covered by industrial awards or agreements, the main groups being nurses, medical officers and technical staff, and senior clerical officers of the Boards.

Special committees have been appointed for each class of employees each consisting at present of the Director-General of Health as Chairman, up to five Hospital Board employees from the relevant class, and an equal number of other members, at least

half of whom are members of Hospital Boards; the remainder being officers of the public service. The recommendations of each Special Committee are reviewed by a General Committee, consisting of the Director-General, the Director of the Hospitals Division of the Department, two members of Hospital Boards, a hospital medical superintendent, a senior medical officer, and a Board Secretary. The General Committee also advises the Minister regarding conditions of employment of the smaller occupational groups where the number of employees involved does not warrant setting up a Special Committee. It further offers advice on all matters affecting all or most classes of employees.

Every Committee is required to have regard to the same broad economic factors as the other State Service Tribunals (see Section IX below). The Public Service Commission has the opportunity to comment on the recommendations as it employs a large number of similar types of worker. The scales and conditions finally approved are issued as regulations under the Hospitals Act 1926.

No detailed examination has been made of the operations of these Committees.

VII

The foregoing is a brief historical background of the permanent industrial tribunals that have been established in recent years in New Zealand, in addition to the Arbitration Court. It is not a complete description of recent wage-fixing methods. The coal mining industry is *sui generis,* and is not treated in this article. And during the war and post-war period up to April last, there were certain large categories of employees, notably those of "local government" authorities including education boards, and Universities, whose conditions of employment were subject to the direct control of the Economic Stabilization Commission or in one or two cases to individual officials to whom the Commission delegated its powers. The Commission and its delegates were not judicial bodies and did not follow tribunal procedures. The "stabilization ceiling" on wages was completely removed by an amendment to the Regulation dated 5 April, 1950, and the Commission itself was disbanded shortly after. Again, some individual salaries in government service are fixed by Ministers or even by Cabinet. There is a statutory limit, for example, on the salaries over which the Railways and Government Service Tribunals have jurisdiction (£825 and £1,060 p.a. respectively in the current Statutes, "or such other salary as may be fixed by regulation").

More important still, however, is the use of conciliation committees, disputes committees, and other forms of *ad hoc* tribunals under a variety of legislative measures (particularly the wartime

Strike and Lockout Emergency Regulations) for settling particular disputes in industry, many of whose decisions have the effect of altering the wage-rates and other conditions of particular classes of workers. A striking example was a decision given about three years ago in settlement by a special Emergency Disputes Committee of a major dispute involving tramway employees. This decision, though effective in practice, was not written into any award for at least two years afterwards. It would be extremely difficult to present a clear picture of the influence on the general wage and cost structure of the country of such *ad hoc* tribunals over the past few years.

The primary interest of these developments for economists lies, of course, in their effects on the policy of economic stabilization, which was aimed at restraining so far as possible over the whole of the economy the war-begotten upward pressures on cost-of-living and personal incomes. But they also raise questions of the efficiency of government administration and of wage-fixing methods, and to a considerable extent their significance is really political.

VIII

In New Zealand, there has never been a close link between the efficient and economical operation of the public service and control over the remuneration of public servants. The fixing of public service wages and conditions has generally been ultimately a matter of political bargaining—the collective pressure of service unions on responsible Ministers or on the Government as a whole. The wages bill has therefore had to be taken as a "datum" by those administratively responsible for the management of the services—the Ministers and the two permanent heads for the railways and post office, the public service commissioners and permanent heads for the remaining departments. The establishment of permanent autonomous tribunals for this purpose has not had the same significance in this respect in New Zealand, as, say, the transfer of wage- and condition-fixing powers from public service authorities to arbitration tribunals in Australia.

In the circumstances it might be thought that the tribunals provide a more efficient means of determining relative working conditions over the ramifications of each section of government service, than the old method of negotiation based on the unions' broad demands and a few departmental files. The unions have to prepare an elaborate submission supporting their claims with facts and arguments, the official side is bound to submit a reasoned reply, and both statements are argued in open court by men with an intimate knowledge of the subject-matter. (Advocates may be used

but they must be employees of the departments or unions concerned.) Witnesses are called, there is examination, cross-examination and re-examination, and members of the Tribunal themselves ask questions. Each side is represented both on the tribunal and by assessors assisting the tribunal, and these people are expected to thrash out each issue between them before the tribunal gives its decisions.

So far there seems to have been satisfaction with the Railways Industrial Tribunal in this respect. Indeed, one of the union organs has suggested that the only improvement needed is to extend the Tribunal's jurisdiction to all officers up to the General Manager! But the same satisfaction has not been expressed about the Government Service Tribunal, in spite of its having the same Chairman. In an addendum to his dissent from a majority decision of the reconstituted Tribunal in March, 1950, the employees' nominee said he had not succeeded in having "the points of view, representations and arguments advanced by the Service Organizations . . . understood, fully considered and discussed by all members of the Tribunal . . . " He implied that the decision had been reached by a straightout vote without discussion.

The Public Service Association also complains that the Tribunal has not made use of its powers to call independent witnesses or to make its own investigation of the facts, but has confined itself to the legalistic process of hearing such evidence as the interested parties are able and willing to present. In contrast to the Railways experience, prior consultation between the parties has not worked successfully for the substantial portion of the permanent public service represented by the Public Service Association. Some would attribute this to the intransigence of the Association's leaders. The latter certainly lay claim in their published statements to be thought of as "militant." And the Association is not unusual among similarly interested parties in judging wage-fixing by results rather than methods. Amendments to the Tribunal Act last year were headlined in its Journal: "Tribunal Improvements Clear Way for Salary Increase."

At the same time, the Association can reply that the Public Service Commission has in so many words adopted the role in relation to the Tribunal of "representative of taxpayers" rather than of personnel agency. There was some confirmation of this charge when at the latest hearing the *government* nominee on the Tribunal said the Public Service Commission's attitude "fell short of being helpful" to the Tribunal. He asked a Commission witness if "the Commission considers the Tribunal incapable of carrying out its statutory duties?" The witness—an Assistant Public Service Com-

missioner—replied: "I think the Tribunal procedure too cumbersome to allow it to devise an adequate salary scale." The Commission's view, expressed in its 1950 Annual Report, is that the Tribunal method involves unconscionable delays, and that "Under the Tribunal system it will be virtually impossible for the Commission to carry out the regrading" of the service required by statute in 1951. It has secured the Association's support of a request for amending legislation for this purpose. In the meantime the Commission's method of opposing a general wage increase before the Tribunal has been simply to throw on the Association the onus of proof of its case. One point of agreement between the Commission and the Association seems to be that both would favour a single tribunal for all government servants—the Commission because it "would give more uniformity in conditions among State employees generally," the Association in the hope that it might rectify margins and anomalies. But government service unions are not unanimous on this issue.

The Government Service Tribunal seems to have worked well enough for the casual-workmen groups, represented by other unions. In conciliation proceedings, the Commission reports, "complete agreement was reached in all matters at issue in respect of seven orders covering approximately 11,000 workmen. Only two orders required argument before the Tribunal. Not only were the parties able to exchange views and gain a better understanding of each other's problems, but the matters at issue were thoroughly sifted before being taken to the Tribunal."

Space limitations preclude, however, the detailed discussion which tribunal operations deserve for full understanding of their problems.

IX

The previous section was concerned with how far the state service tribunals had gone in providing a less arbitrary and more efficient method of fixing wages and conditions. Another objective was the application of specialized knowledge and experience to the peculiar conditions of each major branch of government employment—hence the plurality of tribunals. Obviously, in the absence of safeguards, that plurality might lead to anomalies between these and other classes of employment, which would be embarrassing both to the government as common employer and paymaster, and to the general policy of economic stabilization. Hence, special legislation required the Arbitration Court and the Tribunals in their major decisions to consider "the economic stability of New Zealand"; the Court was enjoined to look to "relative movements in the

incomes of different sections of the community''; and the Tribunals were required as well to have regard to:—

(a) The necessity of promoting the efficiency of the Service concerned.

(b) The latest general order or standard wage pronouncement of the Court of Arbitration.

(c) The rates of remuneration and the working conditions generally prevailing in industry.

(d) Any changes in the cost of living; and

(e) Such other considerations as the Court of Arbitration is for the time being required to take into account in making awards.

(A ''general order'' automatically amends wage rates in all awards of the Court by the same basic amount. A ''standard wage pronouncement'' merely provides a standard by which awards may be amended individually and with individual variations.) Moreover, maximum wage rates were legally restricted until April of this year.

It must be admitted that some of the concepts to which the wage-fixing authorities were bound were little more than well-meaning generalities, incapable of precise measurement by the present modest though rapidly improving statistical services of the country. In practice, the groups of workers under the different jurisdictions have been able to secure some adjustment to post-war price-rises (in turn stimulating further rises) by levering each other up alternately on the fulcrums of the separate authorities. The broad result seems to have been to keep an almost rigid relativity in the main rates of wages between the several groups of state employees, and between their rates and the *nominal* rates prescribed by the Arbitration Court. This means that the state service tribunals have not appreciably rectified any anomalies that may have existed in general rates of pay between the different state services when they were established; while during their regime differentials that were claimed to exist between public and private employees (e.g. at the time of the Margins and Anomalies Committee) have probably widened, owing to increases in non-governmental ruling rates over award rates (and even over legal stabilization maxima before their removal in April, 1950) in response to labour shortage and mounting living costs. Specific application for increases on these grounds were rejected outright by majority decisions of the Railways and Government Service Tribunals early this year. The Chairman and government nominees required—and claimed they did not receive—full statistical evidence of ruling rates: a difficult requirement since if common opinion relied on by the unions is correct, many actual rates

were illegal at the time. A new union application has been made (now *sub judice*) since the stabilization ceiling was removed, to the Government Service Tribunal.

A brief resume of the movements in the principal rates will illustrate both the "leap-frog process" and the maintenance of rigid relativity. The first order of the Government Railways Industrial Tribunal to deal with wages (Principal Order No. 5 of 13/2/1945) was explicitly intended to correct the relative disabilities of the railwaymen and bring them into line with other parts of the public service and of industry generally. This order had no sooner been made than an equivalent increase was granted by the government to all other state servants. That increase, granted to an estimated 23 per cent of all salary and wage earners in the Dominion, was taken directly into consideration by the Arbitration Court in raising standard minimum wage rates in the next month of that year. In 1946 further salary and wage increases were granted to railway employees following the granting of higher rates of pay to other government employees in the general regrading of that year. These increases were used by the Federation of Labour in support of its application to the Arbitration Court for a new standard wage pronouncement which was made to apply from 1 October, 1947. But precisely the same increase as had thus been made in the standard wage, operative from precisely the same date, was written into the next wages order of the Government Railways Industrial Tribunal, and, as we have seen, was granted to all other government servants and thus gave rise to the "margins and anomalies" investigation. The latter was abortive, and following an Arbitration Court increase of £22 p.a. to certain tradesmen, the Railways and Post and Telegraph employees at the end of 1948 moved for further general increases in wage rates. The respective Tribunals granted an increase of £22 per annum effective from 1 July, 1948, for both departments in May, 1949, and the infant Government Service Tribunal did the same in its first principal order. In April, 1949, the Arbitration Court made a new standard wage pronouncement equivalent to a general increase of £35 p.a. operative from 1 June, 1949. Thereupon the Railways, Post and Telegraph and Government Service Tribunals granted their employees the difference of £13 to be operative from the same date. On the withdrawal in May, 1950, of £12m. of subsidies from a number of essential consumer commodities, the Arbitration Court was empowered to make an interim general wage order, which it did to the extent of 5 per cent addition to existing award rates. The Service Tribunals applied this without change. About the only relative alteration in rates that has taken place on a wide scale in recent years has been

the steady narrowing of margins for skill, but there have recently been some indications of a reversal of this trend.

It has been said that the significance of tribunals is as much political as administrative or economic. Whether "permanent" or *ad hoc,* one apparent motive for their establishment was to relieve Cabinet Ministers from political embarrassment and from some of the pressures on their time. It may be said that Ministers are no longer required to spend long weeks in negotiations with deputations on wages and conditions generally. But they are still, of course, fully accessible to representatives of organized employees, and the present government has set up a Cabinet sub-committee for regular periodical discussions with the government service unions on outstanding issues. Matters raised this year by the latter have included items under the jurisdiction of the Tribunals, Tribunal decisions, requests (not granted) for specific government instructions to state employing authorities and to the Tribunals, and Tribunal constitution and procedure. Moreover, it is generally assumed that the government must, at least in some indirect way, give some guide to the Tribunals on its basic financial and economic policy, and to this extent the Tribunals' independence and the government's freedom from responsibility are fictions. As a Railway Officers' Institute official delicately put it in his journal a few months ago: "We do not question the integrity or judicial impartiality of the members of the Tribunal, but we are not blind to the difficulties that confront them in making decisions on issues which have a definite impact on any Government's budgetary intentions."

It is clear that the use of tribunals has not established industrial peace on the waterfront. Their real value, said unkind critics, was that the Labour Government which established them could point to machinery for redressing the grievances of the militant groups of workers, and at the same time wash its hands of political blame by the electorate if such groups openly defied the judicial tribunals.

But the central problems of economic rights and political power in a democracy cannot be exorcised by machinery. The late government *imposed* the successive waterfront authorities on the employers and workers in that industry. That alone removed any ultimate obligation on either of the parties to work the machinery faithfully, even though they might make short-term promises on being granted such concessions as representation on the authority, or the separation of wage-fixing from administration. The intransigence of the organized watersiders is partly traditional, partly a matter of the personalities of their leaders, partly due to a conviction that collective bargaining with the aid of the "economic punch" of a key section

of workers has in fact been the main lever wedging up the conditions of the more constitutionally inclined workers under the Arbitration Court. But in recent years these factors have been re-inforced by a general unrest which has influenced all workers confronted by restraints on their economic claims in the name of "stabilization," while they saw record expansion, profits and dividends buoyantly dancing on the financial pages of newspapers throughout the country.

In these circumstances tribunal machinery could not cushion any government completely against the repercussions of its economic policy. When the "economic punch" was put in hard, supplemented by the "political punch" of a union which had always given powerful financial and campaigning support to the Labour Party (though in my view the then Opposition and Press vastly exaggerated this factor), we saw that government, as in early 1947 on the waterfront, superseding the tribunal to make a settlement with the workers. There were cases, too, of union refusal to accept the decisions of *ad hoc* tribunals being followed by the appointment of new tribunals on the same dispute until a favourable decision had been given. In all such cases the Opposition raised the cry of "appeasement of industrial pressure groups." On the other hand, there were occasions when the Labour government's political intervention was on behalf of its stabilization policy, or of its electoral reputation, or of the mere good name of the tribunal idea itself. The government authorized the declaring of the *Mountpark* a "preference ship"; the government settled other disputes in favour of the *status quo;* the government removed the watersiders' representatives on the present Authority for not accepting its majority decision. That is the context of course for claims by the waterside union that when it comes to a crucial economic struggle, "the employers just stand back on the sidelines and watch the government fight their battle."

Since the National Government has been in office, only one crisis has arisen on the waterfront, and it is not yet clear what its outcome will be. The Government had to intervene, as already shown. The men have gone back to work at time of writing only on a promise of settlement by direct negotiation with the employers. The workers' nominees are boycotting the Waterfront Industry Authority, and thus its ignominious role to-day is consistent with its past history.

R. S. PARKER.

Victoria University College.

EMPLOYMENT IN THE NEW SOUTH WALES MANUFACTURING INDUSTRIES, 1877 to 1938-39

Perhaps the simplest logically, the oldest historically and in many ways the most important practically of all the roles of the statistician in the economic field, is to collect that detailed quantitative information on specific or general economic questions which is at once a prerequisite of serious economic inquiry, and the basis of legislative action in the economic sphere. In the *Statistical Register of New South Wales,* the Government Statistician of that State has published annually since 1860 a wealth of such information on a wide variety of subjects.

For the investigator however, who comes to the *Register* for statistics relating to a particular subject over a long period of time, the usefulness of these records is frequently impaired by apparently arbitrary changes in methods of presentation, classifications, "coverage" of the phenomenon in question by the data, and so on. That in point of fact many of these changes are not arbitrary, but the necessary result of changing time and circumstance, only increases the difficulties of obtaining continuous data over long periods.[1]

All this is true of the statistics relating to employment in the manufacturing industries of N.S.W., which have been published annually in the *Register* since 1877.[2] The purpose of this note is, first, to present in the accompanying table a number of continuous series for the period 1877 to 1938-39,[3] which are exhaustive of the total recorded employment in the N.S.W. manufacturing industries; and second, to indicate briefly the several changes in classification, field of reference, and so on, during the period, which made the compiling of these series so formidable a task. This note might be regarded as one chapter of a 'Handbook of the N.S.W. Statistical Register, 1860 to date,' which would examine in similar fashion all the more important and continuing arrays of the *Register.*

The classification of the manufacturing industries of N.S.W. in use in 1877, was significantly changed three times over the period to 1938-9, in the years 1886 (modified 1896), 1902 and 1930-1. The necessary first step, therefore, in presenting the data on employment recorded in the *Register,* in a manageable array

1. This emphasis on the elements of discontinuity should not be misinterpreted; there is a powerful and preponderating continuity in the *Register.*
2. Prior to this date, only returns of the *number* of establishments were collected.
3. The immediate pre-war year. The series have not been extended beyond this year, because the pattern of employment in the manufacturing industries was affected so greatly by World War II that it must be considered a separate story.

of continuous series comparable over the whole period, was to rearrange the figures for each year according to a single classification. It was considered that the classification most useful for general purposes, would be that at present in use by the statistician.[4] This classification distinguishes sixteen classes, as indicated by the column headings of the Table (e.g. Class 1—'Treatment of Non-Metalliferous Mine and Quarry Products'); throughout the period it proved exhaustive of the recorded statistics.[5]

It is not clear to what extent there is any inherent justification of this classification. Certainly it has been historically conditioned. The earliest classification of the manufacturing industries of N.S.W. closely reflected the dominantly agricultural and pastoral economy of the time; with the progress of the manufacturing sector, wider and more detailed classifications became necessary, the details of which were determined both by the new developments in that sector and the inertia of the old arrangements of things.[6]

Taking all the classes together, there were some 117 "significant" subclasses or "industries."[7] The procedure in extending the present classification back to 1877 was then simply to obtain the series for all such subclasses, group them into the sixteen classes, and take the sum for each year. This procedure, it should be noted, is based on the assumption that the figures relating to the individual *subclasses* are essentially homogeneous.

4. A classification must always be considered in relation to the purpose it is to serve. For the purposes of cyclical analysis, perhaps the most useful classification would be the Kuznets three way classification, whereby the industries are classified according as their products are (1) durable or non-durable (semi-durable or perishable), (2) consumer or producer, and (3) finished or unfinished ('finished' goods, defined in a special sense to include only final consumers' goods, and new, i.e., additional, not replacement, producers' equipment). See Simon Kuznets, *Commodity Flow and Capital Formation*, Vol. I, National Bureau of Economic Research, U.S.A., 1938.

5. The 'Miscellaneous' Group (Class XV) exceeds 1 per cent of the total number of employees only in the later 1930's.

6. The original classification, first adopted in 1863 in tables of the *number* of works, contained six classes.

It might be said that the 1930-31 classification of industries emerged historically as a result of the interplay of three principles of classification. (At least, that classification may be rationalized along the following lines.) Thus a number of industries might be grouped into one class (1) because all their products satisfy a distinct type of want (hence Classes IX, VIII, XI, XIV, V and, in fact, XVI); or (2) because they are all dependent on one principal raw material (hence Classes X, VI, IV, VII, XII, XIII); or (3) because there is a similarity of the physical product and/or of the production process, and this similarity has led to a close association in fact (hence Classes I, II, and perhaps III).

7. The details of the present classification, which dates from 1930-31, are readily available in the chapter on 'Factories' in any recent *N.S.W. Year Book*.

A subclass, or 'industry,' is delineated as consisting of all factories producing, or whose predominant activity is the production of, a certain product defined in physical terms. In the chapter referred to, neglecting the 'Other' category in each class, 144 such subclasses are listed. Not all of these however are 'significant'; a few do not appear at all in the *Register*; others, for example 'Dressmaking' and 'Millinery,' are invariably taken together, yielding but one series of employment; still others (e.g. 'Cement and Cement Goods,' and 'Lime Plaster and Asphalt') have been grouped together for a large number of years and hence, in effect, also yield by one significant series. By estimating employment in a number of subclasses over periods of varying length (as specified hereafter), 117 subclasses, significant in this sense, were derived. (The details of these estimates are: 'Bakeries,' for the period 1877-1926/7, using an index based on the movement of six staple industries of Class IX, which the recorded figures for Bakeries, available for 1892 from the Census of Manufactures of that year and for 1927-28 and subsequent years, follow closely; 'Tailoring,' 'Dressmaking and Millinery,' 1877-1895, using an index based on the remaining clothing subclasses of Class VIII; 'Kerosene,' 1896-1928/9; 'Animal and Poultry Foods,' 1896-1921/2; 'Sewing Machines,' 1896-1904 and 1907-1922/3; and 'Animal Oils,' 1930-31 to 1938-9.)

There are, however, certain difficulties for this procedure inherent in statistics of the manufacturing industries. For example, the series over the whole period for employment in the firms of the subclasses 'Ship and Boat-building and Repairing,' is homogeneous in the sense that the figures relate in each year to the number of men engaged in factories devoted to ship building, despite the fact that in 1877 the men were working primarily with wood and canvas, while in 1938-39 they worked with steel and rivets. In the 1930-31 classification, this subclass is included in Class IV ('Industrial Metals, Machines, Implements and Conveyances'), because ship building belongs essentially to the metals, engineering group. In earlier years, this was not the case; ship building then had more affinity with the 'Wood-working' group. (In point of fact, in the earlier classifications, it appeared as a class in itself.) For this reason, in the present tables 'Ship building and Repairing' is entered under Class IV, but is shown separately as a sub-category of that class. The case of ' . . . Vehicles' is similar; in 1910, the dominant component of that series was the subclass 'Coach and Waggon Building,' which together with the 'Spokes' factories, accounted for 1,609 of the recorded 1,653 employees. In 1930-31, only 429 men of a total of 5,181 were engaged in these industries; 4,752 were employed in the motor and aeroplane industries. The series for ' . . . Vehicles' is therefore also shown separately as a sub-category of Class IV, in the present Table.[8] However, because it has no definite significance in the early years, the sum of the columns 6, 7, 8, 9, and 10 (the component series of the present Class IV) has not been taken.

The present day classification of the manufacturing industries then, cannot be applied mechanically over the whole period. Indeed change in the classification has been in part the necessary result of the growth and development of industries; in reversing the process, we must take care.

In the Table, the 1930-31 classification has been modified in several other (minor) ways. These may be indicated, if we consider briefly the following series, which, in addition to the series for ship building and vehicles, are shown separately in the table:

Boiling Down, Tallow Refining. Employment series are useful indicators of cyclical fluctuations. Boiling down operations however have tended (particularly in the earlier years; the series for boiling down is not strictly continuous in 1930-31) to increase with a depressive, cyclical fall in export prices. Thus employment in this subclass increased from 171 in 1892, to 1,497 in 1893. The series

8. Of course, the retention of both these items in Class IV throughout is justified, in that the products of both may be classed as 'Conveyances.' But the addition of 'Conveyances' to the title of the Metals, Machinery works group was made, just *because* these two industries had so developed that they should rightfully be included in that group.

for 'Boiling Down, etc.' has therefore been separated from the other series of Class III ('Chemicals, etc.').

Government Railway Workshops. Employment in this category is much more stable over the cycle than in the remaining industries of Class IV ('Metals and Metal Works'). Again from the view-point of cyclical analysis, employment in this category is shown separately.

Arms. The major movements of this industry are directly related to war conditions, and because of this specific influence, the subclass is shown separately.

Umbrellas. Umbrellas were transferred from the 'Miscellaneous' group (Class XV) to the 'Clothing' group (Class VIII) in 1930-31. To so classify umbrellas is questionable procedure; that subclass has no greater claim to be so classed than, say, jewellery. The series is therefore shown separately, but is included in the 'Clothing' total.

Hosiery and Other Knitted Goods. Since 1930, this series has been classed in the Textiles group (Class VI), presumably on the grounds of similarity of process. That group consists principally of unfinished goods (cotton and woollen materials, rope and canvas), or finished goods which are not articles of dress. In the present table, the series for 'Hosiery, etc.' has been included in the 'Clothing' group (Class VIII); it is shown separately so that the figures given here might be reconciled with the official statistics.

Tobacco. This series is included in Class IX ('Food, Drink, etc.') as is usual, but is shown separately because it is distinct from the remaining series of the group.

Chaff-Cutting, Cattle and Poultry Foods, Sausage Skins. The total of these three subclasses is shown separately, and excluded from the total of Class IX, because the first two, and to a lesser extent the third, are at stages in the production of finished food products very different from the remaining industries of Class IX.

Basketware and Wickerware, Brooms and Brushes (designated Class Xa). This series is the sum of employment in the subclasses 'Baskets and Wickerware, including Seagrass and Bamboo Furniture' and 'Brooms and Brushes,' the former included since 1930-31 in Class X ('Woodworking, etc') and the latter in Class XV ('Miscellaneous'). Prior to 1930-31 (and since 1902), these two series made up a separate class; and while they are recorded separately in each year, the haphazard fluctuation in the individual series as compared with the movement of their sum series would suggest that the distribution of employees to the two subclasses has been somewhat arbitrary in each year. The two component series therefore, have since 1930-31 been subtracted from their class total, and their sum entered on the Table as Class Xa.

Toys, Games and Sports Requisites, and *Surgical, Optical, etc., Instruments.* These series are perhaps the most important of the miscellaneous group (Class XV), and are therefore shown separately. Observe the very rapid growth which the former exhibits in the later 1930's.

Employment in N.S.W. Manufacturing Industries, 1877 to 1938-39

Year (a)	I	II	III			IV					V	VI	VII	VIII			IX			X	Xa	XI	XII	XIII	XIV	XV			XVI	TOTAL, ALL CLASSES
	Class		Chemicals, Dyes, Paint, Oils, etc.			Industrial Metals, Machines, Implements and Conveyances								Clothing			Food, Drink, etc.									Miscellaneous				
	Treatment of non-metalliferous mine, quarry products.	Bricks, Pottery, Glass, etc.	Chemicals, etc., excluding "Boiling Down, Tallow".	Boiling Down, Tallow Refining.	TOTAL, Chemicals, etc.	Metal Works, excluding Govt. Railway Works.	Govt. Railway Workshops.	Construction and repair of Vehicles	Ship building and repairing	Arms.	Precious Metals, Jewellery, Plate.	Textiles, Textile Goods, (excluding "Hosiery"—see VIII).	Skins, Leather (not Clothing or Footwear).	TOTAL, *inclusive* of :	Umbrellas, *and*	Hosiery and other knitted goods.	TOTAL, *inclusive* of :	Tobacco, but *excluding* :	Chaff-cutting, Sausage Skins, etc.	Wood Working, *excluding* :	Baskets etc., Brooms and Brushes.	Furniture, Bedding, etc.	Paper, Stationery, Printing, etc.	Rubber Goods.	Musical Instruments.	TOTAL, Miscellaneous, *inclusive* of :	Toys, Games and Sporting Requisites, *and* :	Optical, Surgical and Scientific Instruments.	Heat, Light and Power.	
1877	321	2031	344	89	433	3273	795	1049	779	—	9	362	2748	8621 (e)			5436 (f)	550	—	1969	46	192	1175	—	10	1	—	1	146	29396
1878	355	2403	363	50	413	3080	843	1164	704	—	4	330	2487	8870			5802	492	—	2338	58	292	1493	—	9	1	—	1	189	30835
1879	259	2236	324	83	407	3042	823	1224	663	—	7	405	2400	7899			5852	425	—	2334	66	304	1706	—	13	2	—	2	218	29860
1880	325	3129	366	155	521	4305	976	1450	525	—	8	353	2670	7199			6547	514	—	2976	69	269	1700	—	9	3	—	3	223	33257
1881	316	2896	408	282	690	4957	1001	1578	614	—	2	489	2786	7741			6376	487	—	3092	75	300	1867	—	11	6	—	6	344	35241
1882	387	3595	449	148	597	4978	1482	1539	676	—	6	479	3305	6636			6262	676	—	3750	96	386	1983	—	7	4	—	4	252	36420
1883	332	3511	432	169	601	4845	1594	1848	742	—	6	523	2961	7183			6882	723	—	4300	89	491	2302	—	4	16	—	16	316	38546
1884	433	3591	439	220	659	4937	2141	1936	1356	—	11	498	3039	8051			8101	688	—	4404	75	566	2690	—	—	11	—	11	344	42843
1885	468	4134	606	272	878	5223	2171	2144	1174	—	10	532	2906	9265			8721	668	—	4811	106	593	3108	—	—	12	—	12	311	46567
1886	636 (c)	3413	877	172	1049	5484	1736	1900	965	—	155 (d)	379	2761	9084	11	—	9371 (g)	703	546 (h)	4595	220	1253 (i)	3654	—	—	49	—	30	334	47584 (j)
1887	601	2655	873	121	994	5512	1286	1814	687	—	170	388	2535	9128	—	—	10063	662	529	4400	147	1236	3668	—	—	142	—	36	349	46304
1888	626	2580	889	127	1016	6465	2521	1978	979	—	178	370	2788	9415	8	—	8954	715	451	4950	131	1451	4360	9	—	139	—	60	519	49880
1889	670	2286	700	140	840	6046	2229	1948	1123	—	200	380	2819	9059	5	—	9715	621	446	4531	148	1348	4669	12	—	130	—	61	565	49164
1890	637	2514	713	273	986	6090	4146	1486	978	—	230	385	2297	9921	5	—	9101	678	250	5955	157	1192	4176	9	—	328	—	67	572	51410
1892	565	1823	703	171	874	7663	2586	1999	1384	—	161	420	2401	9426	6	—	8277	552	238	5531	97	1048	4494	4	—	81	—	42	656	49728
1893	320	1668	622	1497	2119	4263	2488	1121	1374	—	34	333	1916	7260	—	—	8754	594	221	4077	129	647	4149	—	—	97	—	26	681	41651
1894	421	1631	792	1684	2476	4706	2739	1224	1239	—	34	406	2861	8710	5	—	8795	600	302	4087	176	811	4265	—	—	81	—	28	718	45682
1895	401	1602	773	877	1650	5109	2729	1136	988	—	52	405	3058	9780	11	—	10593	645	239	4223	163	790	4726	3	51	86	—	22	744	48528
1896 (b)	440	1839	787	690	1477	6321	2473	1230	1062	—	103	413	3282	9429	13	—	11577	641	269	3950	156	1183	4900	4	105	147	—	35	755	51115
1897	540	1708	810	493	1303	7815	2767	1313	1297	—	118	403	3064	9768	16	—	11028	613	201	3941	171	1327	4942	6	98	113	—	44	722	52645
1898	700	2032	755	121	876	7660	2748	1423	1228	—	118	449	2912	10467	21	—	11074	610	236	4019	208	1569	4882	9	99	140	—	54	706	53555
1899	707	2227	915	124	1039	9170	2908	1495	1397	—	114	474	3021	10798	26	—	11168	649	293	4170	202	1701	5015	12	99	169	—	58	700	56879
1900	828	2339	989	103	1092	9888	3246	1653	1566	—	142	490	3025	12889	33	—	11532	800	319	4322	260	1916	5352	23	123	100	—	55	784	61889
1901	844	2482	1226	110	1336	10126	3889	1865	1496	—	165	607	3320	13943	41	—	12667	1030	345	5132	258	2140	5573	35	226	107	13	69	927	67483
1902	978	2598	1222	207	1429	9834	4050	1676	1434	—	243	587	3295	13812	43	—	12457	1104	275	5202	258	2048	5936	49	202	87	11	65	1030	67480
1903	943	2453	1383	134	1517	9240	3776	1659	1459	—	257	655	2955	14946	106	—	11611	1011	309	5185	256	1923	6135	48	219	90	6	64	1123	66760
1904	949	2575	1452	164	1616	9602	3915	1746	1309	—	368	635	2909	16119	127	—	12051	977	367	4940	270	1915	6360	56	240	116	9	69	1130	69188

1902	978	2598	1222	207	1429	9834	4050	1676	1434	—	243	587	3295	13812	43	—	12457	1104	275	5202	258	2048	5936	49	202	87	11	65	1030	67480			
1903	943	2453	1383	134	1517	9240	3776	1659	1459	—	257	655	2955	14946	106	—	11611	1011	309	5185	256	1923	6135	48	219	90	6	64	1123	66760			
1904	949	2575	1452	164	1616	9602	3915	1746	1309	—	368	635	2909	16119	127	—	12051	977	367	4940	270	1915	6360	56	240	116	9	69	1130	69188			
1905	916	2787	1590	264	1854	10094	3902	1828	1453	—	393	669	2997	17529	103	—	12930	952	448	5280	283	1966	6468	100	300	138	12	71	1158	73493			
1906	1252	3030	1756	290	2046	11380	4184	2003	1561	—	457	791	3303	19017	149	—	12908	1016	517	5249	287	2317	6961	115	289	191	9	86	1191	79049			
1907	1152	2940	1665	442	2107	13735	4640	2624	1680	—	626	860	3595	21177	150	—	13414	1103	804	5955	286	2481	7593	112	323	219	9	84	1284	87607			
1908	1147	3184	1704	377	2081	13249	5688	2725	1902	—	579	985	3491	21544	163	—	13407	1309	752	6368	308	2703	7922	125	336	266	9	85	1404	90166			
1909	1285	3303	1833	463	2296	13234	5929	2825	1796	—	608	1185	3560	22106	168	—	13748	1250	823	6762	294	2846	8045	157	319	252	8	84	1480	92853			
1910	1446	3906	2049	519	2568	14820	6268	3167	1995	—	658	1375	3889	23390	176	32	14714	1412	859	7494	337	3218	8642	175	328	346	8	87	1610	101205			
1911	1528	4592	2288	485	2773	16183	7276	3443	2429	—	753	1383	4041	25207	134	213	15589	1431	797	8264	332	3534	9134	291	327	360	13	96	1874	110110			
1912	1640	4741	2395	455	2850	17612	8552	3523	3169	149	863	2283	3918	25652	147	373	15727	1425	903	8969	378	3974	9441	307	352	361	17	97	2283	117647			
1913	1666	5372	2259	546	2805	18400	9912	3644	3358	332	816	1495	3923	25145	141	380	16749	1497	990	9362	381	4035	10009	295	341	372	16	97	2374	121776			
1914–15	1842	5899	2516	490	3006	17459	9577	3323	4710	766	714	1693	3850	23272	170	487	17494	1763	810	8258	411	3642	9279	375	295	389	33	112	2553	119617			
1915–16	1733	4326	2721	301	3022	18355	10222	3328	3223	1213	688	1916	3846	24586	121	606	16203	1969	738	7447	457	3464	9368	524	320	523	42	115	2573	118075			
1916–17	1640	4225	3073	385	3458	18429	9342	3417	4185	1328	689	1797	4002	24454	136	608	17459	1930	673	7174	474	3636	9529	528	372	549	84	147	2394	119754			
1917–18	1940	4693	3589	374	3963	19247	7724	3588	3619	1170	728	1850	4433	24665	148	639	18898	2032	683	7472	521	3760	9562	646	372	375	128	162	2545	122454			
1918–19	2076	5091	3857	558	4415	20519	8443	4031	5097	1091	767	2112	4540	24126	119	772	20058	1973	700	8445	506	3844	9812	778	380	355	121	186	2510	129696			
1919–20	2307	6535	4581	610	5191	23587	9832	4505	6908	799	896	2360	4929	26964	113	1085	21414	2400	802	9296	687	4364	10647	997	520	420	170	199	2626	146586			
1920–21	2991	6695	4477	557	5034	27417	10676	4626	5175	828	830	2543	4368	25665	132	1477	20054	2394	650	9274	689	4312	10527	1055	562	351	126	206	2871	147193			
1921–22	2915	5491	4749	584	5333	24491	10981	4905	5616	595	824	2602	4734	29425	161	2512	21434	2299	811	9151	766	4352	11282	1437	649	408	119	198	3118	151320			
1922–23	3399	5887	4698	551	5249	25144	10538	5884	4928	—	852	2460	4764	29680	150	2779	21775	2311	812	9662	783	4725	12299	1451	812	511	156	215	2992	154607			
1923–24	3597	6032	4974	576	5550	28429	11500	7093	4980	353	868	2997	4506	28682	139	2345	21061	2393	926	10431	708	4765	12478	1498	781	568	124	241	3081	160884			
1924–25	4030	6470	5001	662	5663	29792	12122	7632	5083	364	860	3359	4348	29604	175	2516	21627	2454	964	10451	791	5051	12904	1644	881	613	122	275	3127	167380			
1925–26	4247	6572	5108	632	5740	31571	13189	8447	4977	369	825	3714	4699	31343	202	3285	22584	2457	888	10572	794	5379	13327	1767	1044	780	136	305	3104	175932			
1926–27	4645	6776	5138	685	5823	33832	14108	9201	5457	372	775	4416	4489	33274	202	3532	22575	2464	878	10449	741	5620	13713	2299	1284	750	117	284	3390	184867			
1927–28	4663	6822	5229	660	5889	32299	14515	8618	5883	353	751	4537	3912	32488	195	3642	22553	2476	661	9749	743	5887	13966	2774	1188	820	106	307	3488	182559			
1928–29	4454	6639	5345	603	5948	33273	14688	9177	5450	369	766	4410	3636	33701	151	4542	23021	2494	628	9537	740	5839	13994	2787	1257	1008	95	287	3743	185065			
1929–30	3888	5239	5285	601	5886	29695	13304	7552	4268	256	638	4656	3481	29196	116	4142	22410	2507	583	8161	751	4731	13437	2698	1145	1062	69	286	3747	166784			
1930–31	2451	3257	4857	289	5146	21519	12210	5181	3059	261	498	4630	2901	23645	101	3842	21027	2351	524	5179	608	2796	11595	1780	723	1098	193	238	3186	133274			
1931–32	1908	2807	5007	288	5295	20787	12046	4286	2924	272	478	5883	3406	24524	95	4280	21124	2268	449	4579	640	2624	11459	1812	652	1301	357	246	2896	132152			
1932–33	1894	3541	5190	305	5495	25181	11913	4558	2841	259	551	6657	3673	26204	80	4445	21531	2234	403	5486	670	2932	11997	1977	486	1549	418	243	2917	142715			
1933–34	2482	4698	5350	296	5646	30163	11838	5463	2488	274	625	7216	3844	28625	102	4325	22834	2415	416	6389	667	3723	12919	2256	276	1872	495	267	2977	157691			
1934–35	3147	6150	5860	313	6173	35851	12072	7093	3060	278	746	7643	4026	31850	117	4388	24487	2754	449	7958	703	4566	14136	2699	243	2194	556	281	3058	178582			
1935–36	3495	6886	6325	312	6637	42315	12696	8722	3488	290	845	9063	4173	33743	115	4708	24802	2921	396	8926	716	5608	15384	2640	283	2716	667	328	3169	196993			
1936–37	3780	7503	7051	320	7371	47288	12916	9991	3603	316	955	8929	4301	35446	104	4988	26238	3217	444	9670	743	6338	15773	2750	250	3327	807	332	3122	211054			
1937–38	4668	7966	7648	341	7989	53765	13464	11316	3657	373	1051	9305	4250	37196	120	5470	27648	3280	475	10103	786	6549	16938	3460	265	3483	1150	332	3171	227878			
1938–39	4622	8468	8195	378	8573	52861	13262	11798	4823	434	981	9823	4401	38766	124	5352	28903	3145	395	10238	786	6222	17405	3543	286	3409	1048	368	3164	233163			

(a) Up to and including 1890, the Statistics each year relate to the average employment throughout the twelve months ended *the following* March. In 1892, the statistical year was made coincident with the calendar year. (No figures were collected relating to the nine months, April to December, 1891.) This continued until 1914-15, in which year (and thereafter) the figures were based on the twelve months ended June 30th.

(b) There was a general change in the 'coverage' of the statistics in this year. See text.

(c) Before 1866, figures for 'Coke' and 'Asphalt' were not collected.

(d) A wider basis for the returns in this class was adopted in 1886.

(e) Includes estimates of 'Tailoring' and 'Dressmaking and Millinery,' for 1877-1895, inclusive.

(f) Includes the estimates for 'Bakeries,' for 1877-1890 and 1893 to 1926-7.

(g) Prior to 1886, no statistics of employment in 'Butter and cheese' factories were recorded. This introduces a serious discontinuity of the series for Class IX, as employment in 'Butter and Cheese' factories in 1886 totalled 839, in 1890, 1,563.

(h) This series until 1895 consists only of that for 'Chaff-cutting,' which itself was not recorded before 1886.

(i) Prior to 1886, only works using steam were included.

(j) The series is discontinuous at this point. See the preceding Notes.

The figures of the Table refer to the average number of employees in the factories during their period of operation, as returned by the employers themselves. All persons employed by the firm, whether manager or overseer (or working proprietor), clerk, engineer, worker in the factory, carter or messenger, or worker regularly employed at home,[9] including persons of both sexes, are counted in.

Until the Census Act of 1901, there was no act in force making it imperative for proprietors of factories and works to supply annual returns of their operations to the Statistician. It was the opinion of the Statistician however that "particulars were withheld in few cases; and where they were not given, it was the duty of the collector, who was usually a person possessing special knowledge of the district, to make up, to the best of his ability, an estimate of the employment afforded by the firm which refused to furnish the information."[10] There is little doubt, however, that in part the trend increases displayed by the various series, at least until 1901, are the result of the gradual spread of the net of the collector. There is, however, no possibility of allowing for this factor.

Until 1896, any establishment using power or, if not using power, which employed five or more hands, was considered a 'factory' for statistical purposes. In 1896, in order to secure uniformity of the statistics with Victorian returns, the minimum number of hands in the case of establishments not using power, was reduced to four. There is, then, a general discontinuity in all the series in 1896.

It was this attempt to secure uniformity of the statistics with Victorian Returns, which led to the inclusion for the first time in 1896 of figures relating to 'Tailoring' and 'Dressmaking and Millinery' establishments. This introduced a major discontinuity into the series for Class VIII; as indicated above (see footnote 7), the figures under these heads have been estimated for the period 1887-1895.

The series exhibit a number of movements of interest to the economic theorist. We may briefly notice two here.

(1) The more important groups exhibit a large degree of parallelism in growth over the period. (This is at once apparent if the series are graphed together on a semi-logarithmic scale.[11]) It is true that, because of changes in the number of hours worked per day, and in productivity, employment series cannot be used to measure the growth of production in the manufacturing industries.

9. Statistics of the number of employees under each of these heads, were first published in 1892, and continued in subsequent years.

10. Coghlan: *Wealth and Progress of N.S.W.*, 1896-7, p. 491.

11. The actual rate of growth however varies widely from group to group and time to time. The slower growth in the Food group (Class IX), for example, may be contrasted with the more rapid growth of the Metals, Engineering group (Class IV) especially since the development of the B.H.P. steelworks and subsidiary industries after 1915.

Nevertheless the general upward movement displayed by the present series parallels the movement, over the same period, of the series for a number of other significant economic variables, financial (such as the volume of bank deposits), agricultural (the output of crops, livestock populations) and otherwise (such as the tonnage of goods carried by the railways). This general movement is doubtless linked to the growth of population and the extension of the frontier.

(2) The ratio graph reveals also significant differences in the amplitude of the cyclical fluctuations of employment in the various classes. Theory suggests that the 'durability' of the product is the significant factor determining such differences, whether as between different consumer goods industries, or finished and unfinished[12] goods in the same class (the influence of stocks), or consumer and producer goods (the "acceleration" principle). The first case is well illustrated by the movements over the 1929-33 depression, of the series for Class IX ('Food, Drink, etc.'). Class VIII ('Clothing') and Class XI ('Furniture, Bedding'). The first class consists of industries producing perishable, the second of industries producing semi-durable, and the third of industries producing durable, consumer products. The percentage declines in employment in 1930-31, as compared with 1928-29, for the three classes, are respectively 8.7, 30.0 and 52.1. The amplitude of the fluctuation in the furniture (i.e. durable) group, greatly exceeds that in the food (perishable) group, with the clothing (semi-durable) group in between.[13] With the passage of time the proportion of employees engaged in the production of the more durable products is increasing; in the absence of Government intervention directed towards the smoothing out of cyclical fluctuations, we may expect an increasing instability of employment in the manufacturing sector of the economy.

H. R. EDWARDS.

University of Sydney.

12. In the Kuznets sense. See footnote 4 above.

13. The terms 'perishable,' 'semi-durable' and 'durable' are used in the accepted sense, of commodities whose periods of consumption are, respectively, less than six months, over six months and less than three years, and over three years. Of the 117 'significant' subclasses to which reference was made in note 7 above, the products of 28 may be classed as perishable, 15 as semi-durable, and 22 as durable, finished consumer goods. To test the conclusion as to differences in amplitude of fluctuation, taking into account all the consumer industries, we calculated for each of these 65 series, the ratio of the difference in the number of employees at the cyclical low and high points, to the number of employees at the latter point (a more accurate analysis would have made allowance for the widely divergent trends in the various series; where there is a rapidly increasing trend movement, the ratio indicated understates the true amplitude of fluctuation, whilst further the true turning points themselves are obscured). For each 'durability' group, we obtained a distribution of such 'amplitude ratios' about a significantly different mean ratio of fluctuation. Taking all these ratios together, an analysis of the variance showed that the variation between means of the durability classes was significantly greater than that within classes.

NEWS AND NOTES

James Bristock Brigden who died in Melbourne last October at the age of sixty-three was one of Australia's senior economists. He was Professor of Economics in the University of Tasmania, 1924-29; Economist and Chairman of the Australian Overseas Transport Association, 1929-30; Director of the Queensland Bureau of Economics, then of the Bureau of Industry and State Statistician to 1938; Chairman of the National Insurance Commission, 1938-39; Secretary of the Department of Supply and Development and then of the Department of Munitions, 1939-41; Finance Counsellor to the Australian Minister in Washington from 1942. In 1941 he was elected an Honorary Fellow of Oriel College, Oxford. An obituary notice will appear in the next issue of the *Economic Record*.

Members of the Economic Society of Australia and New Zealand, and many readers of the *Economic Record* abroad, will wish to congratulate Professor Douglas Berry Copland, Vice-Chancellor of the Australian National University, upon the honour of knighthood conferred on him last June. Sir Douglas has held many distinguished academic and public offices; but it need be recalled here only that, while Professor of Commerce in the University of Melbourne, he was one of the leading founders of the Economic Society of Australia and New Zealand, and that as Editor-in-Chief for many years he was responsible for the success of the *Economic Record* and for the established position which it has attained.

The Honorary Secretary of the Economic Society of Australia and New Zealand (Professor G. L. Wood) and the Editor of the *Economic Record* (Mr. G. A. Weller) went abroad on leave from the University of Melbourne during the latter half of 1950. During a visit in August and September, sponsored by the Australian National University, Professor J. B. Condliffe, one of the original New Zealand members of the Editorial Board, and now of the University of California, visited the various universities, conducting seminars, and delivered lectures to several branches of the society.

Professor B. E. Murphy retired recently from the Chair of Economics at Victoria University College, Wellington, N.Z., after

thirty years of service in that position, and a longer period since his first appointment to the college. He is succeeded by Professor Horace Belshaw, who returns to academic life after some years in the service, first, of the Institute of Pacific Relations and then of the Food and Agriculture Organization of the United Nations. He was formerly Professor of Economics at Auckland University College.

Professor S. J. Butlin, whose book on the early development of the Australian monetary and banking system is now in the press, is continuing his work, and for this purpose is seeking to locate reports, prospectuses, minute books and similar records of banks and other financial institutions, more particularly from 1850 onwards. He would be glad to hear from anyone who possesses any of these or who knows where they may be found. (It may be assumed that those in metropolitan public libraries have been located.)

Experience has shown that many institutions hold minute books and other records of defunct banks and the like without being aware of the fact, and information of any such would be especially welcome. Professor Butlin's address is Department of Economics, University of Sydney.

Mr. L. G. Melville, Assistant Governor of the Commonwealth Bank of Australia, and former President of the Economic Society of Australia and New Zealand, was elected an Executive Director of the International Monetary Fund and of the International Bank for Reconstruction and Development by the Governors for Australia and South Africa at the Third Regular Election of Executive Directors. The term of the election is two years from 1st November, 1950.

Mr. H. W. Arndt has been appointed to the Chair of Economics in the Canberra University College. A graduate of Oxford and for some years on the staff of the University of Manchester, Professor Arndt was at the time of his appointment Senior Lecturer in Economics in the University of Sydney.

The address of the honorary secretary of the Wellington, N.Z., branch of the Society is now: Mr. B. Hocking, Public Accountant, P.O. Box 350, Te Aro, Wellington, C.2, N.Z.

NOTES

TRENDS IN THE CONSUMPTION OF COAL IN NEW SOUTH WALES, 1850-1914

This note aims at bringing together material relevant to the study of trends in the consumption of coal in New South Wales. The objective may appear to be superfluous to many, in view of the wealth of relevant series more or less easily accessible in such sources as the *N.S.W. Statistical Registers* and the *Annual Reports of the Mines Department*. The usefulness of these series is however less than one would at first assume. Sometimes what is included in a series is uncertain from the classification given. At other times the series are discontinuous. Before they can be of use to the economic historian, then, it is necessary to re-classify them and to make them continuous and consistent. Moreover the official series cover only the broad categories here grouped in Appendix I. To obtain those in Appendices II and III it is necessary to work through the *Statistical Registers* for each year, while the final group of series is, for the most part, unobtainable elsewhere. The data relating to the period before 1848 that the writer has so far collected could not be analysed on a comparable basis with those relating to later periods.

It has not been found necessary to alter considerably the official categories Intercolonial Exports, Overseas Exports and Domestic Consumption, but two important changes have to be noted. Prior to 1900 the Mines Department classified the coal distributed amongst these categories as Intercolonial, Foreign, and Home, respectively. Intercolonial then included New Zealand. After Federation the name Intercolonial was changed to Australasian, coal sent to New Zealand still being grouped with that of the Australian States. In 1914, when the period for collecting export figures was altered from the calendar to the financial year, New Zealand was transferred to overseas exports. The titles of the various classifications were not altered, but a small letter (c) was included in the "Australasian" series to indicate exports to Commonwealth States only. No attempt has been made by the Mines Department to make this change retrospective, and so this series is of little use for comparisons with more recent series. In Appendix I this change has been made, New Zealand Exports being transferred from "Intercolonial" or "Australian" to "Overseas," so that the series there presented are comparable to modern classifications if allowance is made for the change in the "Years" in the two periods.

The above alteration is simply one of classification. The next one is more complicated. Before 1906 bunker coal statistics, both intercolonial and overseas were not collected.[1] To make the Domestic consumption series more meaningful and it and the other series comparable with more recent ones, an attempt has been made to estimate the quantity of N.S.W. coal consumed as bunker coal. The only estimates that are available are the official ones from 1906[2] and Coghlan's for the 1890's.[3] To fill the gaps and to carry the series back as far as possible the steam tonnage cleared figures have been used as a crude index of the quantity of bunker coal taken from N.S.W.

Apart from the usefulness of separate series for interstate and overseas bunker coal, it is necessary to make separate calculations because the ratio of bunker coal taken to steam tonnage cleared is quite different for the two series.[4] As no information regarding changes in this ratio over time is available no trend was allowed for in estimating the intercolonial bunker to 1876. Likewise no trend could be taken into account in the overseas series 1876-1890 inclusive. If, however, Coghlan's figure for 1891 may be taken as reasonably correct it is possible to make a separate estimate of overseas bunker coal for that year by subtracting the interstate figure (obtained in the manner mentioned above) from Coghlan's estimate. This remainder indicates that there was a considerable increase in the ratio of bunker coal taken per steamship tonnage cleared between 1891-1906 which has been allowed[5] for in our estimates by assuming a linear trend in the rate of increase in bunker coal taken and modifying the tonnage cleared index accordingly.

Appendix II (Distribution of Overseas Exports) and Appendix III (The Distribution of Intercolonial Exports) have been carried back as far as the information in the *N.S.W. Statistical Registers* will allow. The break in the former series between 1857 and the early

1. Prior to 1906 bunker coal was included in Domestic Consumption. Davidson, Gepp and Ward in the *Report of the Royal Commission on the Coal Industry* (1930) (cited as the *1930 Royal Commission*) are incorrect on this point. See appendix 7 (b), p. 346, where it is pointed out that Ships' Stores were included in general exports with the implication that this applied to bunker coal. This is incorrect. See *N.S.W. Statistical Register* 1906, the section on "Ships' Stores" where it is stated that prior to 1906, Ships' Stores *with the exception of bunker coal* were included in general exports. Cf. also T. A. Coghlan, *Wealth and Progress* 1892, p. 107, where he states that bunker coal is included in home consumption.

2. The source for the interstate figures is the *N.S.W. Year Books* for relevant years (from 1911-1922 inclusive interstate figures were not published). The overseas figures may be found in the *N.S.W. Statistical Registers* under the heading "Ships' Stores."

3. Coghlan estimated in *Wealth and Progress* 1892, p. 107, that the quantity of bunker coal in 1891 was "a little short of 300,000 tons." For his other estimates see *Wealth and Progress* 1894-1901.

4. For an approximately equal tonnage of steam shipping cleared interstate and overseas in 1906, 183,000 tons was used as bunker coal interstate and 1,003,000 tons as overseas bunker.

5. This increase in the amount taken per ton cleared is the reverse of what one would expect on first thoughts, viz., that improvements in marine engineering would lower this ratio. The explanation seems to be that this increase in efficiency was more than balanced by an increased quantity taken as bunker due to longer voyages, in part made possible by such improvements. A further point, related to the former, is the possibility that the relative cheapness over this period of N.S.W. coal compared with that of other bunkering ports was responsible for such an increase.

1860's is due to changes in presentation in the *Registers* which do not permit the required grouping. This grouping is such that it can be made comparable with the series 1910-1929[6] in the 1930 Royal Commission Report.

In Appendix IV (Domestic Consumption) with few exceptions, the figures are estimates, the basis of which needs explanation. Thus the estimates for coal consumed in and about the collieries are made by taking 4 per cent of the total production for each year. The facts that the collieries of the Australian Agricultural Company consumed 3.6 per cent of their total production between 1860 and 1869,[7] that 4.3 per cent of total production was consumed in and about the collieries in the relatively prosperous years 1922-24 and 5.1 per cent in the depressed years 1932-34[8]—indicate that the figure of 4 per cent will give reasonably correct figures for this form of consumption.

The source for the consumption of coal by railways is, in the main, the *Annual Reports* of the Commissioner of Railways. Unfortunately these contain the value of coal consumed and not the quantity, and it has been found impossible to obtain a useful price index whereby the quantities could be calculated. For those years for which quantities are unobtainable it has been found necessary to use consumption per train mile to estimate them. The gaps so filled are 1861-1876, 1888-1893, 1901-1904, 1906-1913. From 1861 to 1876 a linear trend in the rate of decrease of coal consumed per train mile was necessary. The period 1888-93, however, needed modification by assuming a linear trend in the rate of *increase* of coal consumed.[9] It was not necessary to apply trends to the periods 1901-4 and 1906-13. In filling in the last three gaps it has been necessary to make allowance for the fact that railway statistics were altered from a calendar to a financial year basis in 1888.

The sources for the periods, when it was not found necessary to estimate the quantities consumed by the railways, are various. No calculation is necessary before 1861 because wood, not coal, was used as a fuel.[10] The amount consumed in the first year that coal was used as fuel is given in the first Report of the Commissioner of Railways.[11] From 1877 to 1887 details of coal which was carried on her Majesty's Service were published in the *Annual Reports* and these have been taken as being roughly equivalent to that consumed

6. 1930 Royal Commission, Appendix 7 (a), p. 345.
7. The *Annual Reports* of the Australian Agricultural Company, 1824-1875, contain information which makes this calculation possible.
8. *N.S.W. Year Books* for the relevant years.
9. The reason for this rate of increase cannot be discussed here for want of space.
10. Rae, J., *Thirty-five Years in the N.S.W. Railways.* "The work of the late Mr. John Whitton, C.E., Engineer-in-Chief of the Railways of N.S.W"; Rae, who was the Commissioner of Railways at the time quotes from Whitton's diary to describe how Whitton altered the boilers of the locomotives to allow coal to be burned.
11. Rae, J., Commissioner of Railways, *Report on the Origin and Progress of the Railways of N.S.W. From 1846-1864 inclusive.*

by the railways. Coghlan published the amount consumed in the *Wealth and Progress* 1894-1900, and the *N.S.W. Year Books* for 1904-5, 1905-6, published the information in those years. An apparently accurate figure is available for 1914.[12]

In 1879 a Steam Tramway Service was commenced in Sydney and later on in Newcastle. The service was administered by the Department of Railways. From 1879 onwards there were published, in the *Annual Reports*, figures for the value of fuel consumed on the tramways. These are of little use before 1885 because they include, as do the Railway figures, the "wages of fuelmen," or after 1899 because from that year the transfer from steam to electric motive power on the tramways began. From 1885-1898 however, the figures have been used to estimate the amount of coal consumed. It has been assumed that the same price was paid for this coal as that used on the railways, and the ratios of tramway to railway figures have been estimated and multiplied by the quantities of coal consumed by the railways in the various years. The quantities so obtained have been altered, where necessary, from a financial to a calendar year basis.

Consumption of coal by gas works has been estimated only from 1887. Before then there are not sufficient data to make an estimate. The figures refer to the coal used as a material in gas works and not to the coal consumed as a fuel in the making of gas which is included in fuel consumed in the manufacturing industries. Coghlan, in *Wealth and Progress*, gives estimates of coal consumed in the making of gas from 1892-1900 and the amount consumed since 1907 may be found in the *N.S.W. Statistical Registers*.[13] Coghlan's estimate for 1892 presumably is accurate as it was obtained as part of an Industrial Census in that year. His other estimates are however doubtful as they appear to be based on the assumption that there were no economies effected in the production of gas, that is, he appears to have made the estimates by dividing the number of cubic feet of gas produced each year by 10,600 (the amount produced from one ton of coal in 1892). In 1907 however, 12,300 cubic feet were produced per ton of coal, and further economies have been effected since then. There is no reason to assume that this was not true of the period 1891-1906. Thus with the exception of 1892, which may be regarded as accurate, Coghlan's figures have been disregarded, and estimates have been made from 1887 (the first year that the cubic feet of gas produced was given in the *Statistical*

12. Corin, W., in an Article on "Power Requirements and Resources of N.S.W." in *Proceedings of the Electrical Association of Australia*, 1914-15, Vol. I, p. 79, gives a figure for the year ending December, 1914, which he obtained from the Chief Mechanical Engineer of the Department of Railways.

13. In the *N.S.W. Statistical Registers*, 1907 et. seq., section "Manufacturing Industry" under the sub-heading "Materials used in the Manufacture of . . . " This also includes the data on gas and electricity.

Register) to 1906, asuming a linear trend in the efficiency of making gas.[14]

No complications arise in making estimates of the coal required for coke making. For the period 1907-13, for which official data are available, 1.5 tons of coal were required to produce one ton of coke. Although this average was obtained in a period when considerable changes were taking place in the technique of coke making in Australia, changes which resulted in better quality coke and a more economical use of the raw material, no information has been found enabling the writer to modify the ratio for the preceding period and so the quantity of coke made from 1884-1905 has simply been multiplied by 1.5 to give the quantity of coal used. Although coke has been made in Australia at least from 1859 no official figures are available before 1889 when they began to be published in the *Annual Reports* of the Department of Mines. The figures for 1884-8 are based on the production of coke in Newcastle only,[15] which however, was at that time the main producer.

Official figures for the amount of coal used to produce electricity are available only from 1907.[16] It is possible, however, from figures for value of fuel consumed for 1901[17] and 1907[18] onwards, to estimate the amount of coal consumed in 1901. From figures published in the *Annual Reports* of the Commissioner of Railways, the consumption of electricity by the tramways from 1905 can be obtained. The sales of electricity by the Sydney Municipal Council are available from 1904.[19] When these two series are added they may be used as an index for estimating the consumption of coal in the production of electricity in 1905 and 1906. Estimates for 1902-1904 inclusive have been interpolated on the basis of the 1901 and 1905 estimates and on the assumption of a linear trend in the rate of increase.

One of the original aims of this study was, naturally enough, to determine the amount of coal consumed in the manufacturing industries. This has been found, so far, to be impossible. Only one estimate of the coal so consumed, is available, viz., that of Coghlan's[20] for 1892. This calculation was made from information collected for the Industrial Census of that year. Unfortunately, only parts of this census were, to the author's knowledge, published, and those parts which were do not contain information on the

14. Since this series was estimated the writer has noticed an estimate for 1903. See Coghlan *A Statistical Account of Australia and New Zealand*, 1903-4, p. 994, where the amount of coal used in N.S.W. gas production is given as 212,059 tons. As his own estimated figure is 207,000 tons he has not thought it worth while to alter the series.
15. Obtained from the *Annual Reports* of the Newcastle Chamber of Commerce, 1887-89.
16. In the *N.S.W. Statistical Registers*, see Note 12 above.
17. *N.S.W. Year Book*, 1921-2, p. 408.
18. In the *N.S.W. Statistical Registers*.
19. See the Sydney Municipal Council "Vade Mecum" Vol. 25, 1924, pp. 289-294 for details.
20. Coghlan, *Wealth and Progress* 1894-5, p. 562, where it is stated that 755,000 tons were consumed at a total cost of £425,000 of which £396,000 were spent on coal.

consumption of coal. This is unfortunate for there are reasons for doubting the accuracy of this figure. In the first place only £29,000 is given as the cost of fuel other than coal, yet in 1892, N.S.W. imported from South Australia, for use at Broken Hill, coke, mainly of British and German origin, to the value of £171,000.[21] As smelting, for which purpose the coke was imported, is included in the manufacturing returns, it is hard to make sense of Coghlan's £29,000 spent on fuel other than coal, which sum presumably includes the coke used at Broken Hill. Apart from this discrepancy there is the fact that if the estimates other than manufacturing are reasonably correct for 1892 (and bunker coal and gas are Coghlan's own, while the railway figure is reasonable when compared with that given by Coghlan for 1894) there only remained, in 1892, after the others have been deducted, about 640,000 tons,[22] available for other purposes which include besides manufacturing, coal used in intra-State steamships, mining operations other than coal, and for household purposes. It is possible that none of these was very large but they do make it more difficult to accept Coghlan's figure. Fluctuation in stocks is another possible cause for variation, but it is unlikely to have been large enough to make Coghlan's figure fit comfortably with the other estimates.

Apart from Coghlan's estimate the only material which could be used to attempt to estimate coal consumed in manufactures is the "fuel consumed" figures which are available for 1901 and 1904 to date in the *Statistical Registers*. To use these it is necessary first to allow for the amount of coke and wood consumed. This is difficult for coke, because it was a period when the production of coke expanded rapidly. Until 1901 exports, which were mainly interstate and a large proportion of the output, can be deducted to give an estimate of the amount consumed locally but from 1910 interstate figures are unavailable so that only more or less accurate guesses can be made. This difficulty apart, there is the problem of finding a useful price index. The average price of coal produced is not of much use in itself, and as yet adequate information about freights, those by sea in particular, has not been obtained. Until more information is at hand it has been thought advisable not to make a separate estimate of coal consumed in industry. It is included in the column titled "Balance" in Appendix IV, which thus includes all other sources of consumption not specifically set down elsewhere.

Finally, a few remarks about the accuracy of the Domestic Consumption Series should be made. Complete accuracy is, of course, impossible, but it is believed that, on present information they are as correct as can be expected. The only really doubtful estimates are

21. *N.S.W. Statistical Register* 1892.
22. See Appendix IV under the heading "Balance."

the early ones in the electricity series and these moreover are not very unreasonable apart from the fact that they form only a small proportion of the total. Apart from this it must be remembered that bunker coal has been subtracted from the Mines Department "Home Consumption" series for 1876-1905 inclusive to obtain our "Amount Available" series. It is quite likely that prior to 1891 bunker coal is under-estimated. The estimates are somewhat greater than Coghlan's figures for the period 1894-1900 but his seem little better than guesses.[23] Some doubts may be cast on the accuracy of the estimates of all these series because of the sharp fluctuations in the residual "Balance" series. It must be remembered however that this includes stocks which in an industry so subject to strikes as the coal industry, are liable to fluctuate violently. A detailed study of the history of the industry in those years would be necessary before it would be possible to say whether the fluctuations shown in the series are unreasonable. Until such a study is made and indicates that they are unreasonable the writer believes that there is no case for seriously revising the estimates of the other series.

A. R. HALL.

University of Sydney.

23. See T. A. Coghlan, *Wealth and Progress* 1892, 1894-1900. The first estimate made by Coghlan was for the year 1891 and has been taken as reasonably correct as it was collected in a year when an industrial census was being taken. The later estimates seem to have been made with one eye on steam tonnage cleared, by adding 25,000 or 50,000 tons when it seemed appropriate. The figures presented here (for method see above), the writer suggests, are much more accurate. It may be pointed out that to interpolate between 1900 and 1906, Coghlan's figures require a growth at the rate of 18.7 per cent, while his figures for 1891-1900 only give an annual average rate of growth of 3.9 per cent. The writer's series gives a rate of growth of 8.1 per cent for 1891-1900, and 11.8 per cent for the period 1900-1906. Thus this latter series not only corresponds closely with the rate of growth of steam tonnage cleared but has no inexplicable break in the rates of growth over the period 1900-1906.

Appendix I

Distribution of N.S.W. Coal, 1850-1914

('000 tons)

Year	Bunker			Exports		Total Exports including		Total Available for Consumption
	Inter-colonial	Over-seas	Total	Inter-colonial	Over-seas	Bunker	Domestic	
1848	—	—	—	—	—	8·3	37	45
1849	—	—	—	—	—	10·4	38	48
1850	—	—	—	—	—	31	40	71
1851	—	—	—	—	—	28	39	67
1852	—	—	—	—	—	25	43	67
1853	—	—	—	—	—	52	45	97
1854	—	—	—	—	—	59	57	116
1855	—	—	—	—	—	61	76	137
1856	—	—	—	—	—	84	106	190
1857	—	—	—	89	8	97	124	211
1858	—	—	—	96	17	113	103	216
1859	—	—	—	115	59	174	134	308
1860	—	—	—	125	109	234	135	369
1861	—	—	—	133	75	208	134	342
1862	—	—	—	164	145	309	168	477
1863	—	—	—	161	137	298	136	434
1864	—	—	—	209	163	372	177	549
1865	—	—	—	205	178	383	203	586
1866	—	—	—	249	292	541	233	774
1867	—	—	—	232	241	473	297	770
1868	—	—	—	236	312	548	406	954
1869	—	—	—	250	346	596	324	920
1870	—	—	—	247	331	578	290	868
1871	—	—	—	288	277	565	333	899
1872	—	—	—	287	382	669	343	1,012
1873	—	—	—	317	456	773	420	1,193
1874	—	—	—	335	538	873	432	1,305
1875	—	—	—	375	552	927	403	1,330
1876	26	28	54	393	476	923	397	1,320
1877	28	36	64	413	503	980	465	1,444
1878	32	37	69	439	567	1,075	500	1,575
1879	37	41	78	443	555	1,076	507	1,583
1880	41	64	105	419	335	859	608	1,466
1881	45	70	115	521	509	1,145	625	1,770
1882	53	80	133	607	655	1,393	715	2,109
1883	74	118	192	700	812	1,704	817	2,521
1884	91	156	247	789	902	1,938	811	2,749
1885	71	122	193	812	945	1,950	929	2,879
1886	82	118	200	863	873	1,936	894	2,830
1887	85	132	217	930	862	2,008	915	2,922
1888	85	142	227	899	1,025	2,151	1,053	3,203
1889	100	155	255	1,136	1,252	2,643	1,013	3,656
1890	107	161	268	988	834	2,090	971	3,061

APPENDIX I (Continued)

Distribution of N.S.W. Coal, 1850-1914

('000 tons)

Year	Bunker			Exports		Total Exports including		Total Available for Consumption
	Inter-colonial	Over-seas	Total	Inter-colonial	Over-seas	Bunker	Domestic	
1891	113	187	300	1,342	1,172	2,814	1,224	4,038
1892	112	206	318	1,156	1,036	2,510	1,251	3,781
1893	105	218	323	999	836	2,158	1,120	3,278
1894	110	229	339	1,007	1,115	2,461	1,208	3,672
1895	106	269	375	1,037	1,129	2,542	1,197	3,739
1896	118	253	371	1,141	1,234	2,746	1,064	3,910
1897	135	317	452	1,344	1,353	3,149	1,235	4,384
1898	138	346	484	1,445	1,346	3,275	1,430	4,706
1899	143	384	527	1,449	1,350	3,326	1,272	4,597
1900	153	455	608	1,769	1,600	3,977	1,530	5,507
1901	160	601	761	1,884	1,587	4,232	1,736	5,968
1902	165	609	774	1,679	1,583	4,036	1,906	5,942
1903	164	632	796	1,761	1,955	4,512	1,843	6,355
1904	156	705	861	1,633	1,540	4,034	1,986	6,020
1905	159	826	985	1,778	1,940	4,703	1,929	6,632
1906	183	1,002	1,185	1,720	2,057	4,962	2,665	7,626
1907	199	1,078	1,278	1,821	2,645	5,743	2,914	8,658
1908	215	1,273	1,488	2,052	2,558	6,099	3,048	9,147
1909	153	999	1,152	1,661	1,581	4,394	2,626	7,020
1910	178*	892	1,070*	1,920*	1,700	4,690	3,483	8,174
1911	189*	1,188	1,377*	1,961*	1,686	5,024	3,668	8,692
1912	205*	1,388	1,593*	2,309*	2,151	6,053	3,833	9,886
1913	234*	1,372	1,606*	2,529*	2,097	6,232	4,182	10,414
1914	—	—	—	—	—	—	—	10,391

*Estimated.

Appendix II

Distribution of Overseas Coal Cargo Exports, 1860-1913

('000 tons)

Year	New Zealand	Pacific Islands	Asia	North America	South and Central America	Others
1857	1·7	0·7	3·7	0·9	0·4	0·4
1858	—	—	—	—	—	—
1859	—	—	—	—	—	—
1860	15	—	—	4	—	—
1861	25	—	14	12	—	—
1862	31	—	76	10	—	—
1863	52	6	57	15	1	3
1864	75	7	49	18	4	2
1865	88	10	47	23	3	4
1866	95	7	125	48	9	7
1867	79	8	121	22	5	5
1868	93	10	160	33	4	6
1869	91	8	148	85	8	6
1870	88	11	126	78	3	—
1871	91	20	112	54	0·4	6
1872	107	19	134	109	3	10
1873	109	25	206	95	5	11
1874	132	26	225	149	3	6
1875	143	43	225	125	7	7
1876	150	29	151	133	2	6
1877	151	22	219	102	8	3
1878	184	36	212	124	5	2
1879	178	41	201	99	12	14
1880	132	19	109	71	1	3
1881	136	40	167	150	8	7
1882	153	58	205	181	35	23
1883	155	74	297	218	58	5
1884	205	87	318	213	57	22
1885	180	125	328	222	81	8
1886	165	95	240	315	51	7
1887	150	88	249	302	63	10
1888	141	83	158	502	132	9
1889	161	119	360	418	178	16
1890	161	90	185	188	198	19
1891	169	145	235	378	222	24
1892	162	126	200	288	235	14
1893	162	100	160	235	164	16
1894	165	169	160	289	304	35
1895	159	137	159	303	365	15
1896	131	168	221	319	376	16
1897	155	178	293	308	398	8
1898	184	193	309	239	411	23
1899	175	310	229	211	412	13
1900	209	314	302	185	561	29
1901	247	362	198	240	490	50
1902	251	315	260	215	498	45
1903	270	492	230	338	572	62
1904	248	359	148	195	537	57
1905	293	482	355	170	583	66

APPENDIX II (Continued)

Distribution of Overseas Coal Cargo Exports, 1860-1913

('000 tons)

Year	New Zealand	Pacific Islands	Asia	North America	South and Central America	Others
1906	216	448	478	158	730	16
1907	221	465	361	599	996	3
1908	285	484	623	244	919	2
1909	240	341	339	127	524	9
1910	228	321	312	223	602	1
1911	211	271	312	203	689	0·4
1912	387	209	458	125	948	3
1913	478	208	488	172	751	0·5

Appendix III

Distribution of Intercolonial Coal Cargo Exports, 1858-1909

('000 tons)

Year	Victoria	South Australia	Tasmania	Queensland	Western Australia
1857	65	10	12	—	—
1858	71	11	14	—	—
1859	93	14	8	—	—
1860	98	18	10	—	—
1861	96	26	9	0·9	—
1862	111	41	13	0·3	—
1863	108	40	12	0·5	—
1864	133	61	11	3·0	0·7
1865	131	58	11	5	0·3
1866	144	81	13	10	0·3
1867	146	73	11	2	0·1
1868	166	65	2	4	0·06
1869	174	59	13	4	—
1870	181	50	14	3	—
1871	193	77	12	4	0·9
1872	191	77	10	5	1
1873	211	83	12	7	2
1874	288	88	11	8	0·5
1875	247	106	15	7	0·5
1876	264	96	25	8	—
1877	295	86	24	9	0·3
1878	309	95	26	9	—
1879	300	101	27	13	2
1880	291	97	20	8	3
1881	374	106	26	14	0·9
1882	414	137	30	21	5
1883	489	129	30	47	6
1884	519	175	38	40	16
1885	557	142	48	52	12
1886	641	141	48	22	12
1887	724	127	43	17	14
1888	744	99	40	7	13
1889	858	190	65	7	15
1890	779	131	59	6	15
1891	954	264	73	14	36
1892	879	149	78	24	26
1893	731	154	67	22	24
1894	705	180	63	20	38
1895	742	153	62	26	54
1896	715	290	57	28	151
1897	701	355	59	32	197
1898	739	433	64	29	190
1899	710	455	86	46	153
1900	867	563	99	48	192

APPENDIX III (Continued)

Distribution of Intercolonial Coal Cargo Exports, 1858-1909

('000 tons)

Year	Victoria	South Australia	Tasmania	Queensland	Western Australia
1901	943	540	97	38	265
1902	871	467	100	54	186
1903	998	435	97	51	180
1904	849	486	90	31	177
1905	923	525	103	41	185
1906	917	478	101	54	170
1907	882	599	98	67	140
1908	1,017	635	103	55	124
1909	940	471	86	51	117

Appendix IV

Domestic Consumption of N.S.W. Coal, 1860-1914

('000 tons)

Year	Collieries	Rail-ways	Tram-ways	Coke	Gas	Elec-tricity	Balance	Amount Available
1860	14·7	—	—	—	—	—	—	135
1861	13·7	6·5	—	—	—	—	—	134
1862	19·1	7·6	—	—	—	—	—	168
1863	17·4	10·6	—	—	—	—	—	136
1864	22	13·7	—	—	—	—	—	177
1865	23	15·4	—	—	—	—	—	203
1866	31	15·2	—	—	—	—	—	233
1867	31	18·6	—	—	—	—	—	297
1868	38	22	—	—	—	—	—	406
1869	37	26	—	—	—	—	—	324
1870	35	25	—	—	—	—	—	290
1871	36	25	—	—	—	—	—	333
1872	40	27	—	—	—	—	—	343
1873	48	28	—	—	—	—	—	420
1874	52	32	—	—	—	—	—	432
1875	53	35	—	—	—	—	—	403
1876	53	39	—	—	—	—	—	397
1877	58	47	—	—	—	—	—	465
1878	63	63	—	—	—	—	—	500
1879	63	70	—	—	—	—	—	507
1880	59	79	—	—	—	—	—	608
1881	71	90	—	—	—	—	—	625
1882	84	99	—	—	—	—	—	715
1883	101	165	—	—	—	—	—	817
1884	110	158	—	10·6	—	—	—	811
1885	114	171	47	17·5	—	—	—	929
1886	113	167	38	19·2	—	—	—	894
1887	117	166	42	14·0	136	—	440	915
1888	128	190	37	21·9	136	—	540	1,053
1889	146	160	44	35	140	—	488	1,013
1890	122	240	50	47	146	—	366	971
1891	162	255	53	46	149	—	559	1,224
1892	151	250	43	12	158	—	637	1,251
1893	131	245	35	27	168	—	514	1,120
1894	147	250	35	52	164	—	560	1,208
1895	150	259	36	42	166	—	544	1,197
1896	156	277	44	40	165	—	382	1,064
1897	175	294	66	96	164	—	640	1,435
1898	188	306	80	126	159	—	571	1,430
1899	184	318	—	145	165	—	460	1,272
1900	220	350	—	189	174	—	597	1,530
1901	239	395	—	193	184	20	705	1,736
1902	237	410	—	190	197	31	831	1,906
1903	254	385	—	240	207	48	609	1,843
1904	241	370	—	257	218	64	836	1,986
1905	265	400	—	244	224	115	681	1,929

APPENDIX IV (Continued)

Domestic Consumption of N.S.W. Coal, 1860-1914

('000 tons)

Year	Collieries	Rail-ways	Tram-ways	Coke	Gas	Elec-tricity	Balance	Amount Available
1906	305	440	—	278	230	129	1,287	2,665
1907	346	490	—	375	247	146	1,310	2,914
1908	366	530	—	476	284	173	1,219	3,048
1909	281	547	—	318	268	203	1,009	2,626
1910	327	585	—	437	301	239	1,594	3,483
1911	360	640	—	388	324	259	1,697	3,668
1912	395	680	—	369	340	286	1,763	3,833
1913	417	715	—	440	369	309	1,932	4,182
1914	416	746	—	—	—	—	—	—

NATIONAL AND INTERNATIONAL MEASURES FOR FULL EMPLOYMENT[1]

I

Economic thought and writing during the past decade has been dominated by problems of unemployment. Most governments have followed the lead given by economists and accepted the responsibility of maintaining a high and stable level of employment. The incorporation of a full employment pledge in the United Nations charter extended the significance and importance of employment policy into the international sphere, and on 11 August, 1949, the Economic and Social Council invited a small group of economists to report on "national and international measures to achieve full employment."[2]

The rapidity of development and the almost universal acceptance of the basic theories of employment are well reflected in the fact that although the small group comprised five economists who possessed different academic backgrounds and nationalities they were able to combine together to produce a unanimous and well balanced report. The major part of the report contains little that is new for most economists but the contents are set out in such a lucid and concise form that it is a pleasure to read them.

The report is composed of three parts plus a separate concurring statement by J. M. Clark. Part I contains a short comment on the place and problem of full employment together with a short definition of the way in which full employment can be defined for practical measurement and use. Part II offers a reasonably comprehensive but simple discussion of the main causes of fluctuations in employment and economic activity including an outline of the various ways in which these causes may be stabilized. Although the recommendations of the group of economists are integrated into the general analysis of this part they are repeated in a separate and well tabulated section which comprises Part III of the report. This part is a complete entity in itself and provides a convenient source of reference.

Unemployment may arise from a number of causes. It may arise from frictional causes which stem from the institutional structure of the economy. These are generally of a temporary nature such as seasonal variations, bottlenecks in certain industries and fluctuations in the demand for the products of different industries.

1. *National and International Measures for Full Employment*, United Nations publication E/1584, 1949, pp. vi + 104.

2. The group comprised J. M. Clark, Professor of Economics at Columbia University; A. Smithies, Professor of Economics at Harvard University; N. Kaldor, Fellow of King's College, Cambridge; Pierre Uri, Economic and Financial Adviser to the *Commissariat Général du Plan*, Paris, and E. R. Walker, Economic Adviser to the Australian Department of External Affairs. Dr. Walker acted as chairman.

exceeded a pre-announced level by a stated percentage, for three successive months'' (para. 79).[3] It is also suggested that additional and perhaps more sensitive indicators of unemployment changes may be provided by watching the movements in the percentage of unemployment in selected industries, such as manufacturing, mining and construction.

While many measures must necessarily be formulated in the light of the circumstances of each situation, it is nevertheless highly important that they should be capable of being put into operation speedily otherwise the economy may have progressed so far towards a depression that it may require very drastic measures to resuscitate it.

Finally, the report emphasizes the importance of co-ordinating a full employment policy with stability in the level of prices. Inflation may arise (a) through an excessive stimulation of effective demand, (b) as the result of ''bottlenecks'' in the production of certain basic commodities and (c) from pressure for increased earnings by sections of the community. Apart from stating these three main origins of inflationary pressures, to which foreign exchange inconsistencies and disparities should clearly be added, the report does little to show how they can be overcome. This is not surprising since there is a great gap in our understanding of the way in which the relationship between prices and wages can upset price stability, production and employment. The importance of future research into these problems cannot be over-emphasized and the separate concurring statement by J. M. Clark presents a recognition of our deficiencies in this field.

While it is true that it may prove difficult to balance unemployment against price stability we can hardly regard the inflationary trend of the post-war period as characteristic of the way in which a normal full employment programme would operate. Furthermore, in the case of Australia, it is difficult to imagine a better example of an economy in which so little has been done to halt the progress of inflation.

II

The most interesting and novel measures proposed in the report are those put forward as a means of overcoming the obstacles to full employment imposed by international barriers. Domestic action to maintain full employment can be largely frustrated by fluctuations in the balance of payments. If a country's export receipts should suddenly fall, not only might strong internal measures be required to offset the fall in effective demand, but such actions

3. If the unemployment target were fixed at 2 to 4 per cent the mean percentage would be 3 per cent. It might be decided to apply the full employment measures as soon as the percentage of unemployment exceeded this figure by 2 per cent, i.e. when 5 per cent of workers are unemployed.

would tend to maintain imports at the previous level and lead to a drain on its international reserves. It might, of course, be possible to solve this problem by imposing import restrictions and maintaining full employment by shifting labour to other industries. This would result in a slight downward adjustment in real incomes. If, however, the imports were essential raw materials this action would lead to disastrous results on internal production and employment. Primary producing countries could weaken the impact of fluctuations in their export prices by establishing domestic stabilization schemes, but this would not solve its growing external indebtedness on current account. It is therefore necessary to provide methods of overcoming these balance of payment difficulties, as the practicability of a full employment programme on a world wide basis will necessarily rely on ensuring a steady flow of international trade.

The most striking feature of the present international trade situation is the position of importance occupied by the United States of America. Any discussion of international policy inevitably centres around the thesis of how the United States will react in various circumstances. This is an extremely precarious position for any long term equilibrium in world trade but there is reason to believe that the United States is gradually becoming more aware of its responsibilities in this direction. This does not absolve other countries from otiosity in the international sphere. They have a definite part to play in assisting to establish equilibrium in their balances of payments and the United Nations report sets out a plan whereby differences in their policies can be compared and where necessary their actions can be co-ordinated and synchronized.

The suggestions for international co-operation can be classified into—

A. Plans for gradually overcoming the structural difficulties under which world trade has been operating during the post-war years.

B. Plans for stabilizing the flow of international lending for long term developmental purposes.

C. Plans for ironing out the effects of shorter cyclical fluctuations in world trade.

The type of measures covered in the third category are essentially analogous to those covered in the domestic proposals outlined above. They are measures which can be undertaken quickly to offset changes in effective demand and maintain full employment. On the other hand the first two types of plans are designed for long term objectives and it may well be asked why the authors deal with these developmental aspects of international lending when

earlier in the report they expressly state they are going to refrain from considering unemployment which arises from lack of development (see paragraphs 20-24). Furthermore, is it possible to set out a country's long term international requirements for developmental purposes without first drawing up a comprehensive scheme which includes the extent to which the various commitments can be met from domestic production and resources? Since the authors consider the above three international plans to be interdependent their approach may be justified in a report of this size but it should be remembered that equilibrium in world trade, full employment and domestic developmental projects are all interrelated objectives and an analysis of any adjusting mechanism for long term international investment flows must be considered incomplete unless domestic developmental programmes are included.

The broad details of plan A are as follows:

(i) The Economic and Social Council of the United Nations should convene a meeting of the governments of the interested countries to draw up a scheme for achieving equilibrium in international trade within a period of three or four years.

(ii) All countries (whether deficit or surplus) should construct "target" balances of payments and illustrate the way in which they hope to attain equilibrium.

(iii) These targets should be compared and inconsistencies adjusted through negotiation between the governments with the assistance of an Expert Advisory Commission appointed by the Economic and Social Council. Further adjustments could be made by holding meetings from time to time as required.

Plan B is to be carried out in the following manner:

(i) The flow of international investment should be stabilized through an international organization such as the International Bank for Reconstruction and Development.

(ii) Lending countries should estimate annual long-term foreign investment "targets" for periods of five years. The governments of these countries should allow the International Bank to draw upon them, at six monthly intervals, amounts up to the total foreign investment planned less the expected amount of private and other lending (including the International Bank's issue of bonds).

(iii) If the amount of loans actually made should be less than the lending countries' commitments, the balance cannot be carried on to the next period. In this way the net lending in each period is stabilized by the target level.

(iv) To ensure that borrowing countries are using the funds for developmental projects they should be required to provide details of all disbursements made by them under this scheme.

(v) The Articles of Agreement of the International Bank should be amended so as to enable this programme to be put into operation. The administration should be carried out by a new department of the Bank which would merely engage in borrowing from and lending to governments.

The objectives of these two plans can be seen to be closely interrelated. The report calls attention to this relationship when it suggests that the analysis of the target balances of payments for plan A would be of assistance in determining the level of international investment (para. 105), yet they do not make any provisions whereby the activities of the Expert Advisory Commission of the United Nations could be co-ordinated with the activities of the International Bank.

While the canalizing of foreign investment into government channels which flow through the International Bank is a necessary feature of any long term foreign lending, the lack of private international lending should not be taken too much for granted. The future may well produce a further growth of private enterprises which will pay no attention to national borders, particularly those of English speaking countries.

Since the loans made by the Bank are to be used for general and not for specific developmental undertakings (which are all the Bank as at present constituted is able to carry out), certain criteria should be used to determine the merit of the applications. The criteria suggested are the effect the expenditure would have on "national income, taxable capacity and export capacity," and the "Bank should not, in general, lend unless it is convinced that, in consequence of the loan, the borrowing country's current balance of payments will improve sufficiently to permit interest and amortization payments to be made" (para. 197(b)).

The plans outlined assume that the post-war international trade disequilibrium can be solved simply by reconciling and adjusting the target balances of payments. Is this a satisfactory assumption? What happens if governments cannot be persuaded to revise their programmes? Obviously they can be forced into line by the simple expedient of the Bank refusing to allow them to borrow more than their allocation of funds. But who is to say the allocation made by the Bank is more correct than any other apportionment? In addition to the schemes developed there is clearly the need to make a thorough investigation of the future of world trade having regard

to the size of populations, the distribution and type of resources, the present stages of development and the terms of trade, together with the expected rates of change of these factors. Such an enquiry would be of great assistance in adjusting the target balances of payments and would provide strong arguments to meet the objections of any governments which suffered major alterations in their proposals. Perhaps the authors expected the process of adjusting the balances of payments to yield such an outline of future world trade! The information derived from this process would certainly be helpful but would hardly solve the problem of adjustment.

III

Turning to plan C we may briefly set it out as follows:

(i) If, in a certain year, a country's imports decline as the result of a fall in its internal effective demand it should deposit with the International Monetary Fund currency equal to the fall in its imports less the fall in its exports as compared with some normal year. No account should be taken of the change in exports if their value has risen in comparison with this normal year.

(ii) The normal year should be the most recent year in which the economy had achieved its full employment target for a period of more than nine months.

(iii) If the country can show that the fall in its imports was "due in part or in whole to factors other than a reduction in its import demand caused by a fall in effective demand" the International Monetary Fund should not insist on the complete fulfilment of the above requirements.

(iv) In order to maintain their imports in the face of declining exports other countries (whether members or non-members of the I.M.F.) should be able to purchase this currency up to an amount equal to the fall in their exports less the fall in their imports from the depositor country as compared with the same normal year above.

(v) If the amounts claimed exceed the amount deposited, the I.M.F. should apportion the currency on the basis of the "best statistical evidence available" and on any grounds submitted under (iii) above.

(vi) Any surplus of the depositor's currency should be refunded at the end of the year in which the deposit was made.

(vii) The I.M.F. should place the purchasing countries' currencies to the credit of the depositor country so that if during any subsequent periods its international monetary reserves (excluding gold produced) are decreasing on account of *current* transactions it may replenish them from these credits.

(viii) If a purchasing country should depreciate its currency in terms of the depositor country prior to the release of its currency to the depositor country under (vii) above, the purchasing country should pay a further sum so as to maintain the same amount in terms of the depositor's currency.

Since the International Monetary Fund is already concerned with maladjustments in the balances of payments and their corrections by short term loans and movements in exchange rates, it is well suited to operate the scheme presented in addition to its current functions. While domestic measures, such as stockpiling, may also be used to maintain imports when effective demand falls they are very limited in their application whereas plan C is capable of general application.

This plan is daring in its conception but only capable of operation if all countries co-operate, and useless if the United States of America fails to do so. It is designed to make available for current transactions a reserve of international currency for those countries which either have no large reserves or do not want to risk running them down. In the case of a country which has small reserves the time-lag in waiting for the International Monetary Fund to approve the currency purchase may cause a certain dislocation of imports and production. This may be further aggravated where a dispute arises under (iii) above and the currency is finally not made available.

Most countries will undoubtedly endeavour to exploit the outlets provided under (iii) above to their uttermost, but if this difficulty as well as other minor frictions which may arise can be minimized, there seems every reason to believe the scheme will assist in preventing the international transmission of cyclical fluctuations. Acutally the constant effort of providing reasons why any surpluses on current account should not be transferred to the International Monetary Fund will have the virtue of keeping the problem of full employment continually before the various governments and may even tend to reduce the need for the scheme.

IV

Finding a solution to the problem of full employment is by no means the end of the economist's task. In fact it is only the start. Once this situation is achieved he has to devise means of keeping the economy in this state while maintaining a stable level of prices and providing a steady improvement in the efficiency of production together with a steady flow of new inventions. The problem of stable prices is stressed by the authors of the report, but it is a pity the problem of the relation between effective demand and

efficiency is consistently ignored. It seems very likely that this is one of the problems that the trade cycle used to solve automatically. While neither the depths of the depression nor the boom conditions were conducive to new means of production, the fairly long upward phase of the trade cycle was undoubtedly a period when inventiveness and efficiency predominated. Can these conditions be reproduced in times of full employment and high effective demand? These problems bear a close relationship to those pointed out by J. M Clark in his separate statement on the wage-price structure and certainly provide the field for much future research.

The authors of this report are to be commended for the quality of the work they have produced in a period of eight weeks despite the difficulties of collaboration, and it is to be hoped the Member Governments to whom the report has been transmitted read it with care.

DONALD COCHRANE.

University of Melbourne.

REVIEWS

Individualism and Economic Order. By Friedrich A. Hayek (Routledge and Kegan Paul Ltd., London, 1949). Pp. vii + 272. 12/6 stg.

This volume is not, as the fanfare-sounding title might suggest, a sequel to that great essay in persuasion, *The Road to Serfdom,* but a collection of papers addressed to fellow-economists. Most of the chapters appear here for the second time in print. It is pleasant to have them now assembled in a form that stresses the inner unity and correlation of arguments pursued on various planes of analysis, sociological, political, economic in the narrower sense. It would have been still more pleasant to find these various strands of thought woven into a systematic fabric that would not only allow us to see, as now, their starting point and their direction but also the pattern assigning to each its place and weight and limits, a Wealth of Nations Reconsidered, or Laissez Faire Revisited, to be written after nine years of retreat to some new Kirkcaldy. But even in their present form, tangential rather than plastic, they will be welcomed as specimens of sober and lucid reasoning, devoid of any graces except those inherent in austere structural thought, and thus eminently suited for reading and discussion with advanced students. Among those most valuable for this purpose will be found two papers that have not yet been published in economic journals: one dealing with "The Facts of Social Sciences" which dwells with great perspicacity and vigour on some basic differences of method and approach of natural and social sciences, the other on "Interstate Federalism," setting out the economic implications of a desired political solution, the political preconditions of a certain economic type of order, and thus showing that any realistic economics not content with systems of tautologies will have to be a "political economy," even when, and just when the political and the economic point of view are clearly kept apart.

It is, however, not in these and related methodological investigations that the volume is centred. Though this time the author does not leave the ivory tower of theory he is first and last concerned with the battle of issues fought outside its walls between the factions of laissez faire and planning, or rather of decentralized and centralized decision. In this conflict the position of the author resembles in more than one respect that of Emperor Julian, the valiant champion of the pagan gods against the rising tide of Christian religion. The battle of economic policies is not yet decided but Hayek seems sadly resigned to the fact that for some time to come his fight will seem devoted to a lost cause and that it will not be possible to have

the ancestors he claims, Smith and Burke, de Tocqueville and Lord Acton, restored in public worship. But would these heroes of another age be ready to recognize their philosophies in Hayek's doctrine and method? I wonder. He seems to share with his illustrious Roman predecessor a trait on which some modern scholars have made some interesting observations, from Wendland to Gilbert Murray. In spite of radical opposition of aims and standards, Julian and his Christian adversaries seem to be united by intellectual and emotional affinities which mark both of them as children of the same third century A.D.: theirs is the same fierce spirituality, the same relentless asceticism, the same readiness to allegoric harmonizing, some would add the same superstitiousness. Perhaps a writer of a coming century will delight in noting such secular family traits in most leaders in the *bellum civile* of contemporary economics; and in pondering whether in both cases the weakness of the defenders of a waning order was and is not largely due to the fact that they accepted the law of strategic action from the very hands of their enemies. It is significant that Hayek bases his case for competition not on its merits in stimulating effort, alertness, and initiative, as Hesiod did, but on its advantages in communicating "information" an intellectualist preoccupation he shares with the host of planners. Another instance is that in trying to escape the Scylla of deliberate control of money creation he does not mind falling into the Charybdis of pledging himself to an international multiple commodity standard; which implies that although denying to a single state the power and wisdom of effectively stabilizing the price of a single commodity for which demand-supply conditions are out of joint, the author is prepared to create an institution undertaking to stabilize an aggregate of most important raw material prices, thus making one large set of cost factors absolutely rigid—and assuming that the international "problems raised by the composition of the commodity unit and the periodic changes in it which will become necessary can also be solved by the adoption of an objective principle which would lift it out of the sphere of political wrangle" (p. 217). What planning optimism!

Above all, Hayek seems unaware that in choosing as his watchword an "ism" deeply tinged by emotions and incapable of precise definition, coined by his adversaries simply as a residual term of all they hated (and using the word in a sense sharply contrasting to its use by Burke and de Tocqueville) he has paid a heavy tribute to the Spirit of the Age. It is a truism that we need norms of action if we want to escape a facile and cowardly opportunism. But can a trustworthy criterion be gained by erecting into a "principle" an amalgam of (a) the observation that in some (but by no means in all)

cases the interplay of individual actions governed by self-interest will lead to results superior to those attainable (in just those cases) by deliberate interference from above, and (b) the methodological maxim that the structure and function of all social bodies should be analysed into actions and intentions of individuals, a maxim which does not exclude the possibility (a very massive historical reality indeed) that these intentions may include a reference to the reality of social bodies not identical with the sum of individual self-interest most narrowly defined?

To assume "that all man's mind can effectively comprehend are the facts of the narrow circle of which he is the centre" (p. 14) and that "no man is qualified to pass final judgment on the capacities which another possesses or is to be allowed to exercise" (p. 15) is spoiling a good case by exactly that type of over-generalization that, with inverted signs, as it were, lies at the base of so much planning doctrinalism. Neither Burke nor Smith used to forget (except in moments of overwhelming eloquence) that principles are not straight lines but rather parabolas at the apex of which a tangent has to turn. The present phase of Hayek's thought seems still remote from that ancestral wisdom.

KURT SINGER.

Economic Survey of Europe in 1949. Prepared by the Research and Planning Division of the United Nations Economic Commission for Europe, Geneva, 1950. Pp. xv + 299. $3.00.

This is the third annual report of the Economic Commission for Europe dealing with the economic recovery of Europe after the war, and with the major economic problems confronting the European countries as a whole. The report maintains the high standard of its predecessors, both in the use of available statistical material and in the judgment brought to bear on the main issues involved. It contains a wealth of material on the European economy that is not available elsewhere in a single publication, if at all for the ordinary student, and is an indispensable guide to the current problems of Europe.

Within the framework in which the European economy has had to operate in the post-war world, the Survey records an improvement in some aspects of Europe's economic position. Thus industrial production increased over 1948 by 14 per cent and reached a level 10 per cent higher than in 1938. If Germany is excluded, because of that country's delayed progress in recovery, the rise in industrial production since 1938 was no less than 25 per cent. This is perhaps the greatest achievement of the European economy since

the war. Unfortunately, agricultural production was still 10 per cent below pre-war, due largely to the shortage of animal products. Food consumption continued to increase and calorie intake had reached the pre-war level in 1949, though protein content was still 8 per cent below the pre-war level. Clothing consumption had exceeded pre-war standards by 1949, but housing standards were still lower. Thus on the whole the level of production and living standards make a good showing compared with pre-war. This is all the more remarkable when capital formation is considered, because the economy as a whole is using a greater proportion of its resources for investment than before the war. In 1949 total net investment was approximately $7,000m. at 1938 prices, one-quarter higher than pre-war, and one-fifth higher than 1948. Despite this Europe has achieved a consumption standard that compares favourably with pre-war in all respects other than housing and some semi-luxury items. Europe seems to be using the breathing space provided by Marshall Aid to good effect, and a large share of the credit for its recovery is due to its own efforts to raise the level of productivity.

But there are three major problems in the post-war European economy for which no permanent solution has yet been found. They are the persistent balance of payments difficulty, brought about mainly by the loss of income from overseas investment and international services rendered by Europe, and necessitating increased dependence on the United States; the interruption to East-West trade, caused by the cold war and the changes wrought by the orientation of Eastern Europe towards the Soviet economy; and the malaise in the German economy, caused by the political attitude towards German recovery of both East and West. These are the three principal obstacles to permanent recovery of the European economy. Of the three, only one has been mitigated by international policy since the war. Marshall Aid has given a welcome relief to Western Europe in its balance of payments difficulties, but clearly it provides no permanent solution. On the other two no real progress has been made, though it should be possible in the long run to make economic adjustments to the new political milieu. But whilst it would be unreal to imagine that the German economy will lie stricken on the battlefield indefinitely, it would be equally wrong to assume that the iron curtain in East-West trade is likely to be lifted, even though there is an abatement of the cold war. The new position of the Soviet economy in relation to Eastern Europe must be taken for granted, and the European economy will have to be adjusted accordingly. But whatever may happen to Eastern Germany, the industrial power of Western Germany is bound to reassert itself sooner or later. When it does it will improve

the European economy as a whole, though it may interfere with sectors of the economy with which it comes into competition.

The Survey is naturally cautious on all three problems, though it provides valuable information on the balance of payments difficulties and the steps required for solution. The other problems raise acute political issues, especially in the relations between East and West, and as the Economic Commission is anxious to ease the tension it is not able to launch out too freely on a discussion on the political obscurantism of either region. Over the last three years there has been a great improvement in the balance of payments of European countries as a whole, from an adverse balance of $7,400m. in 1947 to $5,200m. in 1948 and $2,900m. in 1949. In the last year there was actually a favourable balance of $200m. with countries other than the United States. The deficit with the United States remained at the high figure of $3,100m. compared with $3,400m. in the previous year. No doubt the position was affected by the recession in American business during 1949, but even with the present recovery Europe must rely on indirect benefits to maintain its dollar balance. It does not produce in great quantities the goods that the United States wants. The restoration of equilibrium in the European balance of payments will thus be a protracted business, depending partly on increasing direct exports to the United States, partly on replacing American imports with local production, and partly on competing more effectively with dollar exports in neutral markets. It is in the latter regard that devaluation in 1949 should prove most beneficial.

The Survey is a model of lucid exposition and clear presentation, and the Appendices on Estimates of Long-term Trends and Sources and Methods will repay study by students interested in statistical technique. The Executive Secretary of the Commission, Dr. Gunnar Myrdal, and his associates are to be congratulated for their enterprise, which, like the spirit that has carried Europe so far along the road to recovery, registers new achievements each year.

D. B. COPLAND.

Langfristige Auslandskredite. By A. Radbruch (Verlag J. C. B. Mohr, Tübingen, 1949). Pp. 224. D.M. 18.-.

This book was meant to be "a contribution to the theory of international capital movements" and as such it should prove to be of some interest to students of international economic relations. Dr. Radbruch's claim is that while the theory of international trade was changed and improved, the theory of long-term foreign lending

remained rather static and is in urgent need of improvements and up-to-date additions.

Few people will question the emphasis on the necessity to formulate a more adequate theoretical basis for contemporary international economic relations nor is there any doubt that long-term credits would prove useful and in many instances necessary. However that is where Dr. Radbruch stops. His book is not concerned with the numerous problems connected with foreign lending although the inability to solve some of these problems is responsible for the slow movement of capital to needy countries.

It is a useful but neither a profound nor exhaustive study. The bibliography shows that German economists are still handicapped by the lack of English and American books issued after 1933, with the exception of few more or less recent copies of periodicals. This, in itself, would be enough to prevent the conclusion of an up-to-date study in a field like international lending.

M. J. GROBTUCH.

Industrial Peace in our Time. By Hubert Somervell (George Allen & Unwin, London, 1950). Pp. 224. 15/- stg.

In this book Mr. Somervell sets out to explain the basic causes of the conflict between labour and capital in modern industrial communities and to outline a practical scheme for mitigating the incidence of this problem.

Mr. Somervell is of the opinion that the crux of this problem is to be found in the low status of industrial workers in contemporary society. Under the mediaeval system the workers owned and sold the products of their labour whereas under industrial capitalism the workers have been reduced to the status of mere hired hands without any control of the organization of production and separated from contact with the ultimate consumers of their labour. The inevitable consequence of treating labour as a mere cost of production has been the combination of workers into unions for the purpose of protecting the price of this commodity. In these changed circumstances it is hardly surprisng that labour and capital, all too frequently, should have lost sight of the fact that both are indispensable partners in the productive process and that each side should have endeavoured to increase its share of the fruits of production at the expense of the other. Yet in spite of this struggle over the division of the proceeds of industry, Mr. Somervell finds that the relative share of the net value of production in the manufacturing industries accruing to labour in a number of countries has remained remarkably stable and this leads him to the conclusion

that there is a natural rate of remuneration for labour that cannot be modified by any manipulation of money wage rates.

The proposals here advanced for mitigating the conflict between labour and capital amount to the adoption of a new system of rewarding the various factors of production whereby labour, management, and capital interests would receive certain fixed percentages of the net value of production. Labour's share would be based upon its natural rate of remuneration. Thus by "providing one single basis and source of reward, conflict arising from the opposing interests of wage earners and profit seekers (or their nominees) would then be eliminated." As evidence of the practicability of his proposals Mr. Somervell gives an account of various variants of his scheme which are already in successful operation in a number of firms.

Although Mr. Somervell is aware that his scheme is not a panacea for all industrial ills, he does appear to expect too much from this particular scheme. Moreover, in advocating the adoption of a more refined system of sharing the proceeds of industry as a means of improving industrial relations he definitely runs the risk of attempting to put the cart before the horse, for it might well be that the existence of good will in industry is, in fact, a prerequisite for the successful operation of any alternative to the wages system. Nonetheless his book is one which should be read by all who are actively engaged in the field of industrial relations.

D. W. OXNAM.

The Dollar Crisis; Causes and Cure. A Report to the Fabian Society. By T. Balogh (Basil Blackwell, Oxford, 1949). Pp. xli + 269. 15/- stg.

If this book were to be regarded as an academic treatise, it would deserve a merciless review. It is loosely written, badly organized and analytically far from adequate. As an example of loose writing, the following example is taken from page 108: " . . . the stabilization of the cost of living through subsidies to the price of essentials permits the restriction of wage demands and with it a cumulative inflationary spiral which could only be checked by sharp deflation and unemployment."

The book consists of a collection of articles on various aspects of Britain's external economic problem, rather than of an ordered sequence of chapters; hence the argument tends to be repetitive, and reading is not made easier by Mr. Balogh's peculiarly breathless style. Statistical inference, theoretical allusions and naked assertion are

jumbled together in a hotchpotch which it would take the patience of Job to disentangle.

As a polemic, the book is much less objectionable. A case can be made for most of Mr. Balogh's strictures on British economic policy during the Labour Government's first term of office. For example, it may well be the case that in the United Kingdom as in Australia the removal of wartime controls was conceived in a spirit of political expediency rather than economic wisdom. The reviewer himself has on occasion remonstrated with his colleagues against the tendency to put too many eggs into American baskets. Mr. Balogh makes out a convincing case for British leadership in Western European politics, and the dangers for British social democracy in allowing economic integration to precede political alignment. He is not alone in doubting the wisdom or necessity of the 1949 devaluation, though here the reviewer finds himself in complete disagreement.

Even as a polemic, however, the book is far from satisfactory. Particularly irritating is Mr. Balogh's tendency to make disparaging asides about the conclusions of what he is pleased to term "orthodox" economics and its exponents, without making any attempt to explain either the reasoning which he is criticizing or the precise nature of the criticism. The professional reader, it is true, will usually be in a position to assess the comparative merits of the case. Quite often the reviewer found himself substantially in agreement with Mr. Balogh's implicit criticisms; on other occasions (more particularly in regard to Balogh's obstinate refusal to admit the traditional principles of comparative advantage) he felt that "orthodoxy" had the better of the argument. In this reviewer's opinion, however, it is quite illegitimate to treat complex technical issues as if they had already been resolved to the complete satisfaction of a majority of the profession—the more so, in the case of a work intended for semi-popular consumption.

It is notoriously true that Mr. Balogh has failed to convince the very people for whom his viewpoint should naturally have had most appeal. Two explanations suggest themselves. In the first place, his exposition is unnecessarily complicated by attempts to crowd too many ideas into too few paragraphs; even an economist will find him heavy going, and the lay reader may well give up in despair. Secondly, he makes the very serious mistake of pitching his argumentation in far too high a key. The British are notoriously unimpressed by displays of virtuosity, and Mr. Balogh manages to convey precisely the wrong impression. He is inclined to blame the Old School Tie, but the reviewer cannot visualize his presentation carrying much weight even at much lower levels of the Labour Party.

And this is a great pity. However "wrong" one may think him to be, either in analysis or in value judgment, one has to give Mr. Balogh full credit for a terrific sincerity. Moreover, a real need exists for a better integration of economic and political studies, at the level of objective analysis rather than of normative polemics. One can only hope that Mr. Balogh's brilliant shortcomings will provoke someone temperamentally better qualified than he into producing the synthesis which economic and political theory so badly need.

G. G. FIRTH.

The Principles of Economic Planning. By W. Arthur Lewis (Dennis Dobson, London). Pp. 128. 7/6 stg.

This book should provide the basis for a considerable clarification of the fundamental issues between economic planning and *laissez-faire*. The type of planning expounded by Professor Lewis is socialism of an enlightened and liberal kind, designed to maximize the freedom of the individual while at the same time striving towards greater equality. The main aim of equality is, however, not to achieve an equality of income but an equality of opportunity. The means of overcoming the inequality of opportunity are increased educational facilities, which will provide all children with the same chances of reaching the top in any skill or profession and a redistribution of property, using the devices of inheritance taxes and capital levies. Complete redistribution of income is regarded as being neither reasonable nor feasible owing to the danger to incentives.

Many planners have been apt to think that the only way to achieve certain required results or to overcome certain obstacles is to impose direct and restrictive controls on both individuals and enterprises, including programmes for the nationalization of particular industries. Professor Lewis points out the weakness of this type of planning and performs a valuable service in demonstrating the many advantages of employing the price mechanism to achieve the same ends. In their pre-occupation with the detailed application of measures designed to ensure a fair distribution of commodities in short supply, governments have been inclined to forget that their real objective is the elimination of these shortages. If the factors of production are not immobile the manipulation of prices may correct these shortages without the need for controls.

Full employment is of course regarded as a necessary objective and is to be maintained through the budget and by ensuring that resources are made as mobile as possible. Mobility of resources

will also eliminate bottlenecks and assist in preventing price inflation. Wage inflation is, however, a more difficult problem and here Lewis realistically points out that the main cause of the trouble is likely to lie with the trade unions, who should be educated into an understanding of the fact that raising the general level of wages does not in general produce any increase in real wages.

Although this study is quite short it encompasses a very large field of economics. As a consequence many controversial issues which the economist would like to see analysed in more detail are ignored in favour of a simpler presentation which is capable of being read more widely. In particular the chapter on foreign trade does not provide an adequate treatment of the post-war disequilibrium in international trade.

Professor Lewis must be commended for the clear way in which he has reconciled many of the conflicting tenets of socialism with a free society. It is a direct challenge to the protagonists of *laissez-faire* and should be read by all economists whether planners or non-planners.

DONALD COCHRANE.

Social Accounts and the Business Enterprise Sector of the National Economy. By F. Sewell Bray (Cambridge University Press, 1949). Pp. viii + 100. 10/6.

This book embodies the result of research work undertaken in the field of applied economics by an accountant. Mr. Bray, a member of a firm of chartered accountants in London, holds a senior Nuffield research fellowship in Cambridge, where his energies have been directed during the last few years towards working out the implications involved in applying accounting concepts to national income estimates; that is, he is working in the field of what Professor Hicks in 1942 designated "social accounting." Mr. Bray, who visited Australia in 1949 and delivered in the universities a series of lectures on his research work, has produced in this book a significant contribution in two directions, namely, in the development of the technique of estimating national income and in the discussion of problems which are common to economists and accountants.

After an introductory section which discusses the application of double entry technique to the objects of national accounting and some of its implications, the "originating structure of accounts" developed by Mr. Richard Stone and published in the United Nations report on "Measurement of National Income and the Construction of Social Accounts" (Studies and Reports on Statistical Methods, No. 7) is reproduced. Mr. Bray then shows a series of

what he terms "originating reconciliations" which traces the interrelations between the entries appearing in each account in the previous section; they are, in effect, as Mr. Bray points out, journal entries which have been reconstructed from Mr. Stone's "originating structure."

In the following section, "primary reconciliations" are given in which accrued items, such as debtors, creditors, unexpired payments and accrued expenses, are brought in, not because "the originating structure was intended to be limited to receipts and payments" but rather because "the real problem raised by the accrual method of accounting was abstracted away in the originating system in order to simplify the presentation" and it is now sought to trace the effects of the adjustments. Having brought these accrued items into the social accounts, it is possible, as is done in Section V, to prepare statements showing opening and closing "circulating capital funds," that is, detailed statements of what accountants usually call current assets and current liabilities. Then follows a "balancing statement," which constitutes both an arithmetical check upon the items brought into the social accounts and a convenient source of entries for the sector balance sheet. In Section VII the social accounts for the business enterprise sector, based upon the foregoing process of revision, are presented. These comprise a profit and loss account in two sections, namely, operating and non-operating, an appropriation account, and a resting account in which movements of balance sheet items are enumerated. Section VIII comprises explanatory notes upon the several items in the accounts shown in the previous section, and in Section IX the completion of the application of the double entry technique is displayed in the sector balance sheet. A short glossary of terms and three appendices, one on depreciation and obsolescence, another on inventories, and the third suggesting the form of statement applicable to an individual enterprise, complete the work.

To get the substance of Mr. Bray's thesis, the book requires careful reading, and an equally careful re-reading; and then one feels that Mr. Bray is entitled to put *quod erat faciendum* at the end of the work. He set out to demonstrate how the technique of accounting can be applied to certain economic concepts, and in this he has unquestionably succeeded.

There are some minor blemishes. When one reads, for example, that "we must ultimately look forward to uniformity if unreal distortion is to be avoided" (p. 7), one is tempted to wonder whether, perhaps, real distortion is to be countenanced. Or one might perhaps cavil at his statement that "a cash account in accountancy technique is one of prime entry" (p. 7), which might be confusing to one

who does not realize that (according to text books and practice which one would have hoped were obsolescent, if not obsolete) the cash book may be used to serve the purposes of a ledger account. Or one might wonder why the fiscal year ending on 5 April should be regarded as any more a "natural" period than any other—it may be more convenient than others but what is it that makes it natural? But "such-like items" (to use another of Mr. Bray's expressions to which a purist might object) and a misprint on page 8 where Section IX is referred to instead of Section VII are like small plaster cracks in a solid brick house—they attract one's attention but do not affect the solidity of the structure in any way.

And there are controversial issues arising on many points of detail, such as bases of valuation of assets, depreciation and obsolescence, and so on—issues which need to be discussed at greater length than appear in this book, and at greater length than can be fitted into a review; but Mr. Bray has performed a service in bringing them forward so that discussion can proceed among economists, among accountants, and between economists and accountants.

L. GOLDBERG.

Empire and Communications. By H. A. Innis (Oxford, Clarendon Press, 1950). Pp. 230, 15/- stg.

The author is widely known to economic historians outside Canada as the leader of the distinguished school of economic history at the University of Toronto. From the detailed studies of Canadian history, models of their kind, by which his reputation was made, he turns to a subject extending in time from Ancient Egypt to the contemporary United States. There is an absence of any grace of presentation so complete that it compels a kind of admiration for the powerful way in which the avoidance of any meretricious appeal to the reader is maintained. Even the title exhibits the author's struggles with the difficulties of communication; for the book is about media for the communication of ideas—stone, clay, papyrus, parchment, paper, the radio—and not at all about ships or roads or railways; a perfectly proper use of "communications" but, typically, not self-explanatory. There are pages and pages of chronological notes of this kind:

"As a result of the opposition of the priests to Nabonidus, who introduced new gods in Babylonia, Cyrus was consecrated king in 536 B.C. He left the cult of Babylonian gods undisturbed and restored the statues to their owners in Babylon. In 529 B.C. Cambyses

succeeded to the throne and in 525 B.C. added Egypt to the Persian empire. He adopted the ceremonial, royal costume, and double cartouche of the Pharoahs but incurred religious hostility by his treatment of the priests. Darius I succeeded to the throne in 522 B.C. and in order to gain the support of the Egyptian priests reversed the policy of Cambyses. In 521 B.C. he gained more effective control over Babylonia. In 494 B.C. he encroached on the Greeks and captured Miletus."

This is no book for the general reader. To the specialist reader it opens up in an important way a subject much (though not entirely) neglected by political and economic historians. Professor Innis examines the history of Ancient Egypt, Babylonia, Greece, Rome, the Middle Ages and modern Europe in the light of the media for the communication of ideas available to them. He argues that some media (e.g., papyrus) favour the maintenance of authority over wide areas because orders and information can be quickly and accurately transmitted; others favour continuity of tradition and authority through time—stone or parchment, for example. Their different properties impose strains on civilizations, when one type of medium is dominant, which may lead to breakdown if the bias is not corrected. The more permanent media have tended to lead to monopolies of knowledge, often ecclesiastical; papyrus, on the other hand, led to growth of bureaucracy in Rome, with dangers for the continued stability of political empire. A compromise may support long-continued stability: "The Byzantine empire developed on the basis of a compromise between organizations reflecting the bias of different media: that of papyrus in the development of an imperial bureaucracy in relation to a vast area and that of parchment in the development of an ecclesiastical hierarchy in relation to time." By reaction, a bias one way tends to be corrected by the development of an opposing type of medium.

This is the thesis. Developed in some two-hundred pages for a time-scale of five thousand years it is, to say the least, frequently compressed and cryptic. Professor Innis is too learned and intelligent an historian to present a monocausal interpretation of such vast and complex events, but the terse language inevitable in any attempt to treat all recorded history makes it difficult to know how much weight he does put upon his thesis. "The profound disturbances in Egyptian civilization involved in the shift from absolute monarchy to a more democratic organization *coincides* with a shift in emphasis on stone as a medium of communication . . . to an emphasis on papyrus" (p. 17). "A monopoly control of communication *defeated* attempts to construct empires. The limitations of the Egyptian empire were *in part* a result of the inflexibility of religious institutions

supported by a monopoly over a complex system of writing" (p. 28). "The rise of absolutism in a bureaucratic state *reflected* the influence of writing and was *supported* by an increase in the production of papyrus" (p. 125). (Reviewer's italics.)

A large number of fascinating questions are raised in this odd and important book, as dry, as compressed and with as little waste space as an explorer's biscuit.

J. A. LA NAUZE.

Economic Development of the Australian Iron and Steel Industry. By Neville R. Wills (Published by the Broken Hill Proprietary Co., Melbourne).

This is a short study of the history and present position of the Australian iron and steel industry. The author very correctly and necessarily stresses "the lack of attention . . . economists and geographers have . . . paid to the manufacturing economy of the Commonwealth." This book is an interesting and well presented stimulus for production of more—particularly economic—history of the industry, for as the author points out the story of the iron and steel industry is still to be written.

The book deals with three or perhaps four distinct phases of the industry: the "Colonial"; that of William Sandford; the Hoskins companies; and finally Broken Hill Proprietary. The Colonial phase is notable for a struggle at Mittagong and Lithgow against an uneconomic situation without any assistance from the Government. The author concludes: " . . . it is probable the iron and steel industry in New South Wales might have flourished much sooner than it did . . . had different trade policies been followed" by the Colonial Government.

In 1908 Messrs. G. and C. Hoskins acquired the assets of William Sandford and continued at Lithgow. At first it was the old struggle over again in which Hoskins set a standard of bad labour relations in an endeavour to make it pay. Hoskins' interview with members of the Federal Parliament led to the passage of the Manufacturers Encouragement Act. Economic problems pushed Hoskins into claiming bonus on iron they did not produce and into trouble with the Government—they had received £135,549 in bonus, "enough capital to allow them to double the capacity of the Lithgow plant" (p. 71). The first World War brought prosperity but "increased railway freights" in 1921 decided the fate of the industry and plans were made to move to Port Kembla. This was greatly facilitated by the New South Wales Government's undertaking to build a railway line

from Moss Vale to Port Kembla. Construction of the Australian Iron and Steel Company's plant at Port Kembla began in January, 1927.

It does not diminish the enterprise, vigour and achievement of those men from Sandford to Essington Lewis if it is pointed out just how much the industry owes to Government assistance. The author does this adequately. Iron bounties, government contracts, guaranteed interest on debentures, freight concessions, railway construction, favourable leases of iron ore deposits, generous interpretations of contract and other failures, the Newcastle Steelworks Bill from a Labour Government which was "an all-clear signal to Delprat and his Board of Directors" (p. 100), the underwriting of £150,000 of the first B.H.P. share issued by the Commonwealth Bank which is "not usual among Australian Banks" (p. 102), and finally the tariff protection and anti-dumping duties which came in 1921, and were raised in 1923, 1926, 1928 and 1929 until finally they were "prohibitive" (p. 127). Add to this currency devaluation and facilities for integration and amalgamation. There were other factors which determined that the hard work and enterprise of men to whom Australia owes much was not to go for nothing and without which the outcome may well have been failure—they were the two world wars and the world depression. The two wars eliminated competition, the first one when that was vital, and both boosted demand to record heights. The depression was of great assistance to the industry because the Premiers' Plan and increased competition among workers resulting from unemployment, operated, as Professor Giblin pointed out to the Tariff Board in 1933, to "reduce costs by internal adjustments to a much greater degree than England or any other important country" (p. 127).

Under these circumstances and aided by the reservoir of rich earnings from the Broken Hill mines the company has a record of continuous growth and success unparalleled outside the United States. Australian costs, not only of iron and steel but of many other products (p. 168) are lower than British and American and may well remain so even in the event of increased unemployment and consequent lower wages in those countries. The problem of the next few years in Australia is rather that of keeping output reasonably close to capacity. Pig iron capacity is 1,764,300 tons (p. 148) and steel 1,825,200 tons (p. 146) but by 1945-46 it was down to "approximately 66 per cent of capacity" (p. 146). The author suggests some of the causes of this:

(a) Production fell after 1942 "slowly at first, but more rapidly as the war ended and victory became certain."

(b) " . . . lifting controls in 1945 led to a movement of labour . . ."

(c) " . . . prosperity and full employment . . . brought . . . a good deal of irresponsibility amongst labour . . . "

(d) " . . . fuel and labour shortage . . . "

Although this work is more a historical than a contemporary study it is disappointing to find no evidence for the above statements, particularly as the book was written with the "co-operation" of B.H.P. One thing is certain, the margin between capacity and demand is not caused by any shortage of demand or by any reasonable anticipation of shortage unless, of course, expectations make it so.

The iron and steel industry, which more shortly means B.H.P., is the foundation of the Australian economy. It is a very efficient foundation and we are fortunate that it has been able to integrate until it has become "one of the most highly integrated in the world" (p. 158) and it now controls all raw materials and the transport of them upon which "its very existence is dependent" (Essington Lewis, p. 156). This condition of "bigness" and integration is a matter for pride because without it the industry cannot function. The problem becomes: how is such an industry to be fitted into a political democracy, so that the level of operation can be kept continuously near to optimum? B.H.P. is now the largest non-governmental employer of labour in the Commonwealth (p. 142) and its scale of operations affects the scale of operations of the Commonwealth as much perhaps as does even the Government. The Government has responded to the need for action to aid in the development of the industry. It will have to continue to respond to the need for action to allow it to function near to optimum and to grow near to optimum rate. This may well mean that some of the autonomy of the Company will have to be shared and it means that factors other than the interests and profits of the shareholders will have to operate upon decisions about its operations and scale of operations.

There are, of course, many other questions about the Australian iron and steel industry which one would like to see answered but it is too much to expect them all to be tackled in a work of this size. However one would hope that the author will take confidence from this work in his qualifications "to do justice to the yet-unwritten story of the iron and steel industry."

J. F. CAIRNS.

European Steel Trends in the Setting of the World Market. Prepared by the Steel Division, Economic Commission for Europe (United Nations), Geneva, 1949. Pp. 148, with a map of the European iron and steel industry, statistical tables and diagrams. $1.50 or 11/- stg. (Available in Australia from H. A. Goddard Pty. Ltd., 255a George St., Sydney.)

The Rollman Report on 'European Steel Trends in the Setting of the World Market' caused quite a stir in economic and industrial circles when it appeared at the beginning of 1950. It is the child of E.C.E.—if the *Economist* is right, a somewhat unwanted child in as much as its conclusions tend to reflect on the iron and steel programmes of some of the member states. Hazarding all however, the Secretariat of E.C.E., under Gunnar Myrdal, has thought fit to publish 'European Steel Trends,' the preparation of which was supervised by M. Tony Rollman, formerly of the Luxembourg Iron and Steel Industry and now Director of the Steel Division of E.C.E.

The European iron and steel industry has been waiting for some such study. So far the steel committee of O.E.E.C., set up in 1947 with headquarters in Paris and charged with co-ordinating the steel programmes of the various countries represented on O.E.E.C., has not published anything comparable with E.C.E.'s report; and it will be interesting to see to what extent O.E.E.C.'s steel committee is influenced by the conclusions of its rival organization.

The Rollman Report faces, fairly and squarely the many problems crowding in upon the iron and steel industry both in its domestic and overseas relationships. It is essentially an analysis by economists apparently without political axes to grind. Readers will find particularly interesting Chapters 2 and 3; the first outlining several techniques used in assessing future levels of demand and the second analysing in detail the various factors of production involved in the European iron and steel industry. The War and its aftermath is seen to have altered very substantially the relative positions of Western Europe and the rest of the World; and it is the now familiar story of a relative decline measured against the great forward strides taken by the United States and to a less extent by other parts of the World, by no means least, Australia. Much of the Report is taken up with a detailed comparison of resources and costs of production in the Old and New Worlds and in the comparison Europe, with the exception of the United Kingdom, shapes indifferently. Only in labour does it appear to have any material advantage.

The Report, as one might have expected, concerns itself with a world wide perspective. In Chapter 1 a prognosis of Europe's exports in 1953 is attempted and each of the main world markets is examined. A pattern of rapidly changing world production emerges which goes far towards justifying the Report's conservative approach to future demand. The expansion of iron and steel production in India, Brazil, South Africa and Australia is noted; the recovery of Japan to levels of production not substantially below those reached before 1941 is wisely assumed. Developments in countries

not yet figuring as significant producers is not ruled out; China for example. Each of these was a substantial importer of European iron and steel in the decade before 1939 although there had been a dropping off in the case of Australia in the 'thirties following the rapid development of the local industry.

If Rollman and his colleagues are correct, Western Europe will have a steel surplus of about 8,000,000 tons in 1953. While present forecasts of production lead them to adopt a figure of 70,300,000 tons, they can see consumption only at 58,000,000 tons. Probable overseas demand is placed at 4,000,000 tons leaving an excess production (or of productive capacity) of 8,000,000 tons. The warning? Europe for its own economic health, must attempt a widespread economic integration of its iron and steel industry. If individual countries continue to pursue autarkic policies then Europe must expect further deterioration in the competitive position of its industry vis a vis the United States. The Report brings out clearly the complexity of Europe's raw material pattern; coking coal and iron ore are no respecters of political boundaries. As a unit, the iron and steel industry of Europe would have a reasonably good resource basis, but as the creature of a multiplicity of rival sovereignties, it is unbalanced, lacking either coking coal in one place or iron ore in another and sometimes lacking both.

The Report in some of its parts has of course not gone unchallenged. Particularly in Britain have iron and steel authorities tended to discount its estimates of oversea demand. The British Iron and Steel Federation expects an export from U.K. in 1953 of at least 3,500,000 tons of steel and the O.E.E.C. countries also hope to increase their oversea sales substantially. In view of the rapidly changing world outlook, the British may prove to be correct although much will depend upon what happens in the United States. British prices are already well below American, a state of affairs due in part to the wage freeze in the U.K. and in part to devaluation. If Britain can maintain this margin then it has a good chance of displacing the United States from some of the markets America has won since 1939. This probability will be improved if an increasing quantity of American steel has to be drawn off for rearmament. A third world war would of course toss the whole position back into the melting pot. Rollman's estimates however have assumed a world preoccupied with the business of peace rather than war; and it is against such a background that 'European Steel Trends' has been written.

It is interesting to find that Australia's production of steel for 1953 has been estimated at 2,000,000 tons " . . . provided that the shortage of labour in both coal mines and the steel industry is successfully overcome . . . home consumption may reach 1,700,000

tons. Australia will no longer require imports of tin plate and may well export a total of 300,000 tons mainly to Far Eastern markets . . . " (p. 14). It is no reflection upon the Report to be able to discount the likelihood of Australia's reaching the above happy state by 1953. Coal continues to be in chronic short supply in Australia and steel production hovers around the million ton mark. Imports are growing and there is little or no chance of Australia's new continuous strip mill at Port Kembla coming into production by 1953. In fact the entire steel development plan in Australia has been frustrated by a manpower shortage and the policy of the Miners' Federation.

N. R. WILLS.

History of the Bank of Ireland. By F. G. Hall (Hodges, Figgis & Co., Dublin, 1949). Students' edition. Pp. viii + 429. 18/- stg.

The fuller edition of this book was an expensive one at three guineas, but those who are content with a students' edition need only forgo an elaborately illustrated study of the Bank's architecture, and may be grateful that the full edition has made practicable the present one at a modest price.

The Bank of Ireland was established in 1783 very much on the model of the Bank of England, although the model necessarily worked somewhat differently, and in the twentieth century its development has largely been conditioned by Irish politics. Mr. Hall has had full access to the extensive surviving records of the Bank, and these necessarily constitute his main source. But he has also been able to use relevant Bank of England records and other manuscript material as well as having exhausted published documents.

The result is an authoritative history deserving to be shelved beside Clapham's *Bank of England.* For any study of Irish economic history it is obviously indispensable, but it merits the attention of all who are interested in monetary history and banking theory. In particular the Bank had close relations with the Bank of England and often sought its advice. Mr. Hall has recorded in detail these discussions. Similarly, it is good to have a full story of the Bank's relations with the government if only for the new perspective it gives to those of the Bank of England with the same government.

One service a reviewer can render is to tell publishers how to make books more readable. A conspicuous defect of the format of the present volume is that a large page has been fully used by adopting too long a line and too many lines to the page, so that even a good type proves tiring to read.

S. J. BUTLIN.

The Measure of Gold: The Role of Gold as International Money. By W. J. Busschau (Central News Agency Ltd., South Africa, 1949). Pp. 164. 12/6 stg.

The purpose of the author is to state the case for an all-round appreciation of gold in terms of all national currencies by "100 per cent or more." The suggestion is not a novel one, and there is something to be said in its favour on objective grounds, quite apart from the natural enthusiasm for the idea shown in recent years by spokesmen of gold-mining companies.

Revaluation of gold would increase the supply of dollars to countries suffering from dollar shortage, not only by increasing the dollar value of their (limited) gold holdings, but by encouraging dollar-earning gold production. The obvious objection to such a step comes from the United States. Even as it is, the world price of gold is maintained solely by the willingness of the U.S. Treasury to buy unlimited amounts of gold at $35 per fine ounce. Revaluation of gold would, from the American point of view, merely mean paying still more (in the form of exports) for unwanted gold. If the U.S.A. considers it desirable to give her exports away rather than lose her foreign markets, she will prefer the technique of Marshall Aid, which at least brings some incidental political advantage, to gold revaluation which yields no return whatever.

The author of this book appears, at one point (p. 128), aware of the real case for gold revaluation from the point of view of the dollar-short countries; and dimly even of the obvious American objections to such a step (p. 140). But for the most part he rests his plea on an astonishing amalgam of *quondam* notions of "practical bankers," the League of Nations Gold Delegation of the nineteen-twenties, Cassel, and the Quantity Theory, all wrapped up in a long "theoretical analysis," as muddled as it is pretentious. The core of his argument appears to be that "banking liquidity," defined as the ratio of monetary gold reserves ("real" money) to the volume of credit (including the national debt), has declined dangerously. Just what the danger consists in is by no means clear. For all countries suffering from balance of payments difficulties, the author has little difficulty in interpreting "liquidity" in the international sense, when the danger lies in shortage of international reserves and consequent pressure for domestic deflation. But that, clearly, will not do for the United States. Here the author voices concern that, because of the "illiquidity" of the American banking system, we may witness "considerable pressure on the dollar in the not too remote future . . . A lack of confidence in the dollar can easily lead to a vast movement of funds from the United States." At other points of his argument, the danger of "illiquidity" appears to

lie in that "a rise in interest rates would have serious effects on the assets of the American Banking System." More often, he leaves this crucial, but awkward, point of his argument in decent obscurity: "Another question which might be asked is that, while the devaluation is necessary for other countries, is it not unnecessary for the United States' dollar? The answer here would seem to be that America has a considerable role to play in the future as the main banker of the world and that, therefore, it is highly desirable that it should be in a position of very strong banking liquidity in order that it may provide the international investment required to revitalize economic activity over most of the globe."

The author acknowledges his debt to Mr. Roy Harrod for "searching criticism of the first draft." This would seem to be a case where the conventional phrase that "none of these is, of course, responsible in any way for the ideas presented here" needs to be underlined. Chapter VI and several appendices provide a very convenient and full collection of statistics on world gold production and distribution.

H. W. ARNDT.

Demographic Yearbook, 1948. United Nations (New York, 1949). Pp. 596. 50/- stg. (Obtainable from H. A. Goddard, 255a Pitt St., Sydney.)

The yearbook contains detailed statistics relating to population, births, deaths, marriages and migration for most major countries in the world, covering, generally, the period 1932-47. It is intended "to meet the need for a central source of demographic data and to replace, in due course, the non-comprehensive compilations which have, in the past, gone some way to meet this same need."

Its coverage is as complete as possible, but because in some cases, certain information is simply not available and in others, governments will not reveal it, there are some big gaps and most of the series of statistics presented in the yearbook cover only from 40 to 60 per cent of the world's population. All the data published are based on official statistics and it is rather a pity that reliable non-official estimates of fertility and mentality measures have not been included, as they would supplement the official estimates and greatly increase the utility of the publication. The yearbook contains a very useful introduction explaining some of the data and indicating the pitfalls met in the collection and use of demographic statistics. There is no comment or analysis and this is as it should be in such a publication. Teachers of statistical methods would be well advised to refer their students to these introductory pages. This

yearbook will prove useful to the research worker, but it cannot replace primary sources. It is an extremely valuable work of reference and no library should be without it. Its publishers are to be congratulated on the clarity of the tables and the general layout.

P. H. KARMEL.

Final Report of the United Nations Economic Survey Mission for the Middle East, Parts I and II. United Nations Conciliation Commission for Palestine (United Nations, 1949). Pp. 103, 74. 7/6 and 6/- stg. respectively. (Obtainable from H. A. Goddard, 255a Pitt St., Sydney.)

This Final Report appears in two parts, of which the first is subtitled "The Final Report and Appendices," and the second "The Technical Supplement." The Final Report proper consists of four chapters, ie., I on "Water, Land and People," II on "Present Obstacles to Economic Development," III on "Pilot Demonstration Projects—The Way to Begin," and IV with "Conclusions and Proposals of the Mission Signatories." The Economic Survey Mission has chosen four demonstration projects only, one each in Jordan, Arab Palestine, Lebanon, and Syria, on the ground that they are limited in scope, practical, feasible within a period of a few years, and conducive to the employment of labour.

The Appendices comprise an Interim Report dated 6 November, 1949, the Resolution of the U.N. General Assembly on 8 December, 1949, to carry out recommendations, a Financial Survey, a brief statement of research and technical survey requirements in the countries concerned, an annotated list of certain development projects in the area, and description and preliminary estimates of pilot demonstration projects.

Part II includes an Agricultural Report and an Engineering Report on the Middle East, and details of some potential work relief projects.

The Mission draws a picture of each Middle East country, which is both concise and extremely effective. Syria "affords a striking example of the broad range of these developmental problems." Iraq "possesses a potential of economic development affording greater promise than that of any other country surveyed by the Mission." In comparison, "the Lebanese economy undoubtedly provides a significantly higher standard of living for its population." As to Egypt, frequent reference is made to "two major obstacles to development, namely, the inadequacy of savings and the difficulty of mobilizing such savings as there are." On the other hand, in Israel "one finds

a western civilization of the most modern type which is making prodigious efforts to draw life from the barren soil of Palestine." Apart from its humanitarian aim of assisting towards the solution of the refugee problem in the Middle East and towards raising the standard of living in the area, this Report contains a wealth of information within a limited number of pages.

J. GENTILLI.

Socialiser dans la Liberté, la vocation de l'Europe. By Georges Lasserre (Albin Michel, Paris). Pp. 315. 390 fr.

This work by a French economist inevitably propounds solutions for economic democracy in the light of recent trends in France. Though they may not seem very convincing to others this should not blind us to the merits of the more general analysis of the course of social evolution. The solutions have a relevance to our own thinking in proportion to our appreciation of the peculiar characteristics of the French economy. Paul Morand once wrote: "France—the noble rearguard of a civilization which is retreating in disorder." No such judgment can be final. What comes out of France has great relevance for the European problems of economic policy.

The historical analysis of the failure of capitalism and the shortcomings of the various forms of socialized industry is clear and shrewd. The relation between private enterprise and the planned economy is defined in such vivid metaphor as "les profits sont la plaie béante au flanc de l'economie planifiée, la source principale des fonds qui alimentent le marché noir."

Those who recall D. H. Robertson's statement that Scientific Management is the latest and most logical extension of the factory system will see the significance of Lasserre's "vassalisation de l'entreprise" in which the *chef d'entreprise* is confined to an executive role on a basis of quota of materials and output, fixed prices and a circumscribed profit margin whose size depends on technical efficiency merely. Each seems to be a logical development of industrial techniques in a co-ordinated economy which can be found in the semi-autonomous branches of a "private" corporation as well as in the trusts of the U.S.S.R.

Perhaps his most ironical point about "free" enterprise to-day is that it believes in its creed only in times of scarcity, as in post-1945 France, while in times of over-production it seeks from the State some form of protective regulation.

The analysis of tendencies and structural changes makes full use of recent British, French and German aspects built around the theme that socialism is the assertion, against their negation by

capitalism, of the essential human values of western civilization. It shows the weakness of defensive organisms like Trade Unions for positive control of industry and contends that Co-operative principles give the best solution to the problem of profit—which in a socialist society becomes the sacrifice imposed upon the present generation for the benefit of the future.

The problem of relative income levels evokes an interesting footnote that even the odious Bedaux system could be the basis for objective justice having been in fact used by the workers of a French communal industry.

The book is a valuable statement of the nature of the problem of building a positive economic democracy to parallel the negative aspect whose institutions are already established. It is to be hoped that an English translation will be made.

K. M. DALLAS.

Human Action. A Treatise on Economics. By Ludwig von Mises (William Hodge, London, 1949). Pp. xv + 889. 42/- stg.

As the author stresses in his foreword, this book is not a translation of his earlier comprehensive treatise on economics, written in German: *Nationalökonomie. Theorie des Handelns und Wirtschaftens* (Geneva, 1940). All parts of that volume have been rewritten, but "the general structure has been little changed." Since 1940 and before the book under review the author has published two other books: *Bureaucracy* and *Government Omnipotent* (both 1944), which, like his earlier book, *Socialism* (English translation 1936), attack not only socialism, but any sort of state intervention in economic matters, in the most uncompromising way. *Human Action* constitutes a climax of this anti-interventionist attitude. Professor von Mises' extremist laissez-faire outlook is not likely to find much approval among present-day economists, but in his undeviating consistency he cannot fail to impress even the most determined opponent of his ideas.

In accordance with this general trend of the book its mainly methodological first three parts (Human Action; Action within the Framework of Society; Economic Calculation) and the concluding parts (Social Co-operation without a Market (dealing with socialism); The Hampered Market Economy; and The Place of Economics and Society) will arouse the reader's interest much more than the bulkiest central section (Catallactics or Economics of the Market Society) dealing with prices, money, interest, trade cycle, wages, etc.

On the whole, Professor F. H. Knight's remarks in his review article on *Nationalökonomie*: "a dogmatic rehash of issues already

worn threadbare with argument pro and con," or, to put it more politely as Professor F. A. Hayek has done in his review of the same book: "a restatement of views expressed in the earlier works," can largely be applied to the present volume. For Mises economics, as developed since the subjective theory of value, is part of the general theory of human action, of praxeology, a term first used in France in 1890, dealing with means and not with ends. Its reasoning is aprioristic and deductive. This logical method is contrasted with the mathematical method which only describes equilibria as if they were "a real entity and not a limiting notion, a mere mental tool. What they are doing is vain playing with mathematical symbols, a pastime not suited to convey any knowledge" (p. 251).

Limitations of space prevent us from going into details of the author's theory. What is perhaps most worth mentioning, is his general application of Ricardo's law of comparative costs, not only to international trade, but under the term of Law of Association as foundation of the establishment of society. In his version of Boehm-Bawerk's theory of interest Mises explains interest exclusively by time preference, but does not base time-preference on Boehm-Bawerk's "third ground," the greater productivity of longer round-about ways of production which for him is a relapse of Boehm-Bawerk into a productivity theory of capital. What is certainly missing in the book's lengthy exposition of catallactics, is a serious consideration of the modern theory of imperfect competition, of Keynesian doctrines and of the treatment of economic aggregates (macro-economics).

As mentioned before, the anti-interventionist outlook of the book is its main characteristic. Every evil usually attributed to capitalism is in fact due to state intervention or to socialist influence. The range of Government power should be restricted to the preservation of economic freedom in a market economy in which the consumers' sovereignty is supreme. Monopolies are not relevant in themselves, they are important only when the monopolist can obtain monopoly prices by restricting his supply and at the same time increase his total net proceeds. In this he succeeds mainly through state intervention, such as tariff protection, often as in Germany in connection with social welfare measures. While there may be a grain of truth in the linking up of protective tariffs with the setting up of monopolies, the author fails to explain why in the U.S.A. most of the powerful monopolies could be created and carried on in the face of state intervention and legislation directed against trade and monopolies.

As to money, state interference with banking can only do damage, as Governments want inflation and credit expansion. The

boom is caused by credit expansion which is one of the principal results of state intervention, and the boom inevitably brings about depression. Mises' trade cycle theory is exclusively monetary. In his opinion Keynes's view that credit expansion is the driving force of economic progress, is utterly wrong. Professor Mises admits that credit expansion was originally done by private banks, but he thinks these could do it only in a very limited, comparatively harmless way, unless they were backed by the central bank as a tool of the Government. Contracyclical Government policies are a mere chimera. Qualitative credit control is impossible. Foreign exchange can "neither in the short run nor in the long run effect a determination of foreign exchange" (p. 796). Wages are determined by the marginal productivity of labour. The workers' living standard has tremendously improved through capitalism, through the interplay of market forces, not through Government intervention, social legislation or trade union activities. The benefits these factors could confer on the working class, were only a ratification of the outcome of market forces. Wherever trade unions by pressure and compulsion succeed in obtaining higher wage rates than the market would justify, the result will be "institutional unemployment." The strongest argument in favour of trade unions that the bargaining power of the individual worker is very small compared with that of the employer, is brushed aside with a remark that wages are determined on the market (pp. 591 *et seq.*). Not capitalism but interventionism, has brought about wars, civil wars, dictatorship, depression, mass unemployment, capital consumption, famines (p. 851). It must inevitably lead to full-scale socialism, i.e., social or governmental ownership of the means of production; a mixed economy, a third system which is neither capitalism nor socialism, is impossible (pp. 259, 712).

Against socialism, both of the Soviet and the German (Nazi) type, the author mainly argues the impossibility of economic calculation, because there is no market for the factors of production which makes a calculation of profit and loss impossible. For this reason the method of trial and error, as practised under capitalism, is equally impracticable under socialism (pp. 700-701). The same applies to a quasi-market, as suggested by H. D. Dickinson and Oskar Lange who meant to preserve all items of capitalistic accounting including interest, profit and loss, at least as accounting items.

In conclusion we want to quote Hayek's words in his review of *Nationalökonomie*: "To the many who will disagree with most of it, this will no doubt prove a profoundly irritating book, but not one which they can afford to disregard," but also F. H. Knight's opinion: "Such philosophic argumentation has something of the air of futility."

F. SCHNIERER.

Lezioni di Politica Sociale. By L. Einaudi (G. Einaudi, Turin, 1949).

A brief exposition of the elementary principles of economics and of social policy delivered to students in Switzerland, by the author while exiled from Italy during the war. The lectures were intended for an audience without much previous training in economics or in social theory and they break no new ground, though they are fluent and easily understood.

The bulk of the book is an examination of the theory and practice of social insurance in its various forms and leans heavily on the work of Beveridge and others. Little is said of the application of these schemes to Italian circumstances. The theoretical discussion does not do more than raise the main issues.

C. R. BADGER.

The Keynesian Revolution. By L. R. Klein (London, Macmillan, 1950). Pp. xii + 218. 15/- stg.

Dr. Klein asks the question: What was the essential theoretical innovation of the late Lord Keynes? The problem involves a comparative and historical treatment of the Keynesian Revolution. The historical aspect is represented by an analysis of the development of Keynes's own ideas; the comparative, by a review of orthodox economic theory of the inter-war period, and especially during the 'thirties.

The conclusion is that *The General Theory of Employment, Interest and Money* is "revolutionary" because "it produces theoretical results entirely different from the body of economic thought existing at the time of its development" (p. vii). Here Dr. Klein might perhaps be justifiably accused of beating a dead horse. The author goes on to show "that Keynes's procedure was to do away with the savings-investment theory of interest and replace it with a savings-investment theory of output. When this had been done the revolution was a *fait accompli*" (p. 76). In other words, Keynes's essential contribution was to show that discrepancies between aggregate savings and aggregate investment, in the schedule or *ex ante* sense, are reconciled *ex post,* not by the equilibrating influence of movements in the rate of interest on money, but by changes in aggregate income.

This savings-investment equation for the determination of income constitutes the first "building block" of the Keynesian theory; the second is supplied by the theory of "liquidity-preference," which determines the other main variable—the rate of interest. In Chapter V, Dr. Klein claims that the first "building block" had been anticipated by Malthus, Marx, Hobson, Foster and Catchings,

Douglas, and N. Johannsen; the second, by Proudhon and Gesell. But "nobody, apparently, anticipated both building blocks . . . " (p. 125). I suggest that Dr. Klein has been a little too kind to Malthus and the under-consumptionists. In particular, although Malthus stressed the importance of effective demand, he never seems to have appreciated the significance of the distinction between decisions to save and decisions to invest, and thus had no more theoretical justification for rejecting the conclusions of Say's Law than Ricardo himself.

In his final chapter, "Keynes and Social Reform," Dr. Klein is much less sure of himself. He stresses, rightly I think, that Keynesian economic policy is conservative in that it seeks to retain free-enterprise capitalism, and sane, because a do-nothing attitude would create an environment in which fascism could flourish. But there are always the objections raised by those economists who, whilst accepting Keynes's explanation of the determination of the level of employment, reject his liberal political philosophy. In the last resort, will the prejudices or class-interests of the capitalists emasculate any Keynesian policy for full employment? Dr. Klein is not alone when he asks himself these questions; many others within the Keynesian group display a similar indecision on this vital point.

Perhaps the author had the business man in mind when he addressed *The Keynesian Revolution* to "a mixed group of readers" (p. vii). These include the lay reader who is, however, advised to ignore the more technical sections. I fear that the book is not, as Dr. Klein hopes, "quite understandable to those without any formal training in economic theory" (p. viii). In fact, it presumes a considerable acquaintance with the literature of economics. It should, however, be of considerable value to the teaching economist and the undergraduate student, since it contains a rigorous exposition, not only of the economics contained specifically within the *General Theory,* but of "Keynesian Economics" in the broader sense which takes account of the developments in theory which occurred during and after the 1939-45 war.

One final point. If *The Keynesian Revolution* is to be used as a reference for undergraduates, is it not a pity that Dr. Klein continues the Keynesian solecism of including all "non-Keynesian" economists in the so-called "classical school"?

G. S. L. TUCKER.

Effects of Taxation: Inventory Accounting and Policies. By J. Keith Butters and Powell Niland (Division of Research, Graduate School of Business Administration, Harvard University, Boston, 1949). Pp. xvii + 330. $3.75.

First Principles of Public Finance. By Antonio de Viti de Marco. Translated from the Italian by Edith Pavlo Marget. Reprinted edition (Jonathan Cape, London, 1950). Pp. 435. 28/- stg.

Under the impact of the "General Theory," public finance has become one of the most important instruments of economic policy, being not merely concerned with the distributive effects of taxation but also with such important problems as the level of employment and inflation. However, there is still much to be learnt from empirical investigations about the economic effects of various types and scales of taxation.

The Harvard Graduate School of Business Administration is to be congratulated on its ambitious programme of studying the effects of taxation on a variety of economic factors. The effects of taxation (presumably personal income and company taxation) on inventory accounting and policies is the first of a series. Other studies in progress are the effects of taxation on individual savings and investment policies; on management incentives; on corporate compensation and retirement plans; on mergers; on depreciation policy; and on corporate financial policy.

The valuation of inventories in times of rapidly rising or falling prices has significant bearing on the size of income not only for taxation assessment but also for dividend, wages and other aspects of business policy, particularly in industries which carry large stocks of raw materials, goods in process or finished goods.

Two main methods of inventory valuation are considered, Fifo (first in first out) and Lifo (last in first out), but variant forms of each of these are also discussed. In times of rising prices, Fifo will show higher profits than Lifo because the former places a higher value on stocks held at the end of the period. The opposite applies when prices are falling. Such unrealized profits or losses on stock would be excluded from income by Lifo.

The use of Lifo for assessing taxable income has been allowed in the United States since 1939. (It is still not permitted under Australian tax requirements.) The authors have tried to discover if the high income and company tax rates since 1939 have encouraged the use of Lifo. Their investigations suggest that tax-saving has been the main factor in the extended use of Lifo, although only about 15 per cent of manufacturing inventories are valued on this basis, and this proportion is concentrated in a small number of industries. Outside manufacturing, Lifo has been mainly adopted by large retail establishments.

If there are important tax savings to be made why has the use of Lifo not been more extensive? The authors conclude that this is to be explained by: ignorance and inertia; the high cost of

operating Lifo; the desire to show high profits; the offsetting disadvantages of reduction in the physical quantity of stocks; and the fear of falling prices.

The words "effects of taxation" in the title is a little misleading. The major part of this book can be studied independently of the effects of taxation. The central problem which this book raises is: how should stock be valued at a time of rising or falling prices in order to obtain a fair estimate of income or profit? This problem is of great importance to national income estimates and to business policy, of which, as the scope of the books seems to suggest, reducing tax liability is but one aspect.

The English translation of de Viti de Marco's *First Principles of Public Finance* which appeared in 1936 has been reprinted. Opinions on this book range from "This is the best treatise on the theory of public finance ever written" (F. C. Benham), to "There is not a single section or chapter which the reviewer could conscientiously recommend to the competent student searching for genuine insights and understanding" (Henry Simons).

It is fair to say that although he discusses public finance problems more fully and systematically, de Viti de Marco did not advance public finance theory very much beyond the writings and ideas of the 19th century. It would, therefore, be difficult to justify this book as a current text on public finance.

Nevertheless, students of the history of public finance theory will welcome the reprinting of this attractively written book.

J. E. ISAAC.

Principles of Finance and Investment. By L. G. Whyte (Cambridge University Press). Pp. 192. 12/6 stg.

Judging by the book's title and the author's FFA tag, the reader might expect something fundamental from this volume—perhaps even some "original contribution to knowledge." However, the list of contents and the Preface promise an introductory book "written at the behest of the Councils of the Institute of Actuaries and the Faculty of Actuaries to serve as a text-book for the financial and investment sections of the examination syllabuses." The promise is fulfilled. But one hopes that the august bodies mentioned are not content with this material as the only text on finance and investment.

It is true that this is only Volume I and that its contents may be a necessary preliminary to deeper matters which are promised in Volume II. The preface tells us that Chapters 13 to 23, which constitute Volume II, are concerned with factors influencing values

of different forms of investment, including an outline of the British money market and banking system, principal types of investments, investment problems of life offices, and the important role of the institutional investor to-day. If suitable allowance is made for Australian conditions, these matters are of great importance to Australian students, and are not well served in the published material. Whether the author has fulfilled his commission "to steer a course between the Scylla of attempting too much and the Charydbis of achieving too little" cannot be judged until both volumes are available.

The first three chapters of this volume describe the general functioning of the economic life of a modern society, and the next three cover the principal types of investment normally encountered. Then comes a chapter on the stock exchange as the main avenue of acquisition and disposal of investments, and then three chapters on the national economy, emphasizing the contents of the White Papers on National Income and Expenditure. In the penultimate chapter we reach "Principles of Investment"—elementary at that stage—and the last chapter is on basic features of company accounts.

The necessarily briéf treatment of many economic problems of great significance evokes many a categorical definition or explanation. Explaining the link between investment and savings, the author separates investment into two categories in this way: "The first relates to the construction of such things as roads, railways, factories, houses, cinemas, and so on, which may be termed voluntary Investment. The second relates to additions to stocks of materials and goods, which may be termed involuntary Investment. When these two categories are added together, total Investment is equal to total savings."

In a useful outline of the development of joint stock companies, comes the sweeping comment, "The timing of the 1862 Act was perfect." He might as easily have written that this act was 200 years overdue. The description of various forms of securities is useful, although the examples are English. Comments on new issues procedure, and on stock exchange mechanism and requirements also suffer similar limitations for the Australian student.[1]

The opening sentence of an "Introduction to Public Finance" seems to be rather unscientific: "The importance of this subject requires no emphasis. Its intrusion into the daily lives of all of us is only too apparent. It is perhaps one of the ironies of the time that the frustration, the annoyance, and the resentment caused by the current high levels of taxation do not prompt a more determined effort to restrict the encroachment of public finance on the private

1. These matters are dealt with from the Australian point of view in a current series of articles in "The Australian Accountancy Student," by the reviewer.

purse." Later, in contrasting the effects on incentive of direct and indirect taxes, he says: "Indirect taxes, especially if not uniform, leave the individual with considerable freedom of choice as to payment and are not nearly so restraining on incentive: indeed, they may well stimulate extra effort." It is interesting to note that the 1948 Local Government Act in England handed over to central government the responsibility for valuation of property for rating, as is done in New South Wales. Uniform valuation is urgently required in Victoria to overcome anomalies in local government finance, and steps have been taken to place the valuations under a central authority.

On the "Analysis of Company Accounts," two comments must suffice. One concerns this dictum on conservatism: "Fortunately there is a deeply rooted propensity among most British companies to try to show things rather worse than they really are." The author's qualification on this comment would probably not satisfy modern accountants.

Secondly, methods of calculating the annual cover for dividends of various ranks of securities are described. The author shows that the cover for the dividend on a junior stock is really the number of times its dividend *plus* the dividend of prior ranking securities is covered by earnings, not the number of times its dividend is covered *after* paying the prior charge. The latter method can produce "the absurdity of the second preference dividend appearing to be better covered than the first"—a trap not avoided by certain eminent authorities in this country. He explains how the danger may be avoided by using the "priority percentage" method. This device is recognized in England, and might well be adopted by Australian analysts.

GORDON BRUNS.

Freedom and Planning in Australia. By A. Campbell Garnett (University of Wisconsin Press, 1949). Pp. 331. $4.00.

The writer of this book is an Australian who for many years has been teaching philosophy in American universities; those of his earlier writings known to this reviewer have dealt with Ethics and the Philosophy of Religion. On this occasion, he has strayed from his proper field "to interpret the spirit and social order of my former homeland to those among whom I now live"; he has written a very competent and what must be, for the public for whom it is intended, a particularly illuminating account of Australian social and economic life. Although there is naturally a great deal that will be elementary to experienced Australian students (and although the specialists

will notice a number of errors and a few more things which they will consider to be misleading or imprecisely formulated) it is a book that should have a wide use in this country too. The Australian "general reader" will not perhaps find another up-to-date work which provides such a compact, informative and suggestive discussion of the chief aspects of our social and economic policies; and it should be profitable reading for university students here who are commencing a study of our recent economic and social development.

The writer concentrates on a few leading topics. He does not attempt the more usual, straightforward description of the structure of government or of the economy; what there is of this sort comes out for the most part incidentally. In fact, the book has very little on problems of government and administration; it differs from most other elementary books on Australia in not labouring the theme of Australian federalism. Professor Garnett is most interested in the administration of the economy and in the social services; he therefore gives most of his space to discussing the growth of social and economic policy, and the controversies which have been part of that growth. His central chapters deal with the rise and influence of Labor, financial and economic policy in the depression, arbitration and industrial relations, the social services, employment policy, nationalization and the working of Australian statutory corporations. The author contrives to give a very lucid picture of the policies that have prevailed, and of the conditions and institutions they have helped to produce. He is at his best in this field. The two historical chapters at the beginning of the book are rather thin and perfunctory; and where he has to turn briefly to constitutional matters or the political machinery, his touch is not so sure. But for a general, popular survey of the social services, the arbitration system, the statutory bodies, and other aspects of economic and social administration his chapters are admirable.

Professor Garnett finds much more to praise than to blame in this examination of our "social order." He is, in fact, an earnest devotee of "Keynesianism" and of the sort of state interventionist, social welfare doctrine which in Australia has been most often associated with the Labor Party. "It would greatly help"—i.e., in improving industrial relations—"if there could be some emphatic pronouncement by the leaders of industry, banking, and all three political parties to the effect that the causes of general depressions are now understood and that all are determined to support future action by whatever government is in power, so that full employmnt will be maintained" (p. 280): this passage suggests the economic optimism, and, still more the political optimism, which obtrude themselves from time to time in his pages. But this, and other possible critical

comments, would not qualify the reviewer's opinion that this book contains a lively and competent sketch of the social and economic system which has grown out of the policies of successive Australian governments.

Professor Garnett includes three very brief and quite inadequate chapters on the major political parties contributed by leading members of the parties. They add nothing of importance to the writer's own material.

P. H. PARTRIDGE.

Lombard Street in War and Reconstruction. By B. H. Higgins (National Bureau of Economic Research, Occasional Paper 28. New York, 1949). Pp. viii + 108. $1.00.

Since the war the centering of interest on new international financial institutions located in Washington has not been favourable to the study of developments in the London money market. Yet material is accumulating. Balogh's *Studies in Financial Organization* gave a picture, not above criticism, of the situation just before the war, and the lectures organized by the Institute of Bankers gave a quick sketch of the position at the end of the war.

Professor Higgins' essay takes a wide sweep. His nominal subject is prefaced by an outline of the impact of the other war on Lombard Street. Then follows three chapters on the recent war. The effects of various forms of control, both direct monetary ones and the indirect effects of e.g. manpower policies provide the background for an analysis of lending to finance war. The changes in money market operations and procedures are then summarized. Finally, the transitional post-war developments are outlined, with some speculations as to the future, some of which have rather lost their point even since the book was published.

The ground covered is wide, and the essay is brief, although Professor Higgins has managed to bring in quite a remarkable amount of factual information without loss of clarity. Anyone who wants to bring himself up to date on Lombard Street might well start with this essay.

S. J. BUTLIN.

Problems of Economic Reconstruction in the Far East. Report of the Tenth Conference of the Institute of Pacific Relations (International Secretariat, Institute of Pacific Relations, New York, 1949). Pp. 125. $1.35.

This Report is a summarized account by rapporteurs of round-table discussions on selected aspects of Far Eastern problems. As

the three groups dealing with Japan and Korea, China and the South-West Pacific respectively, met simultaneously, there is little uniformity of approach or co-ordination of ideas. To a certain extent this was remedied in the second set of discussions, which dealt with the topics of agricultural problems, industrialization, international economic relations and education and technology. The fact stressed by all speakers was that any approach to economic reconstruction is severely limited by the uncertainty of Japan's future status, war in China and unrest in other Pacific areas.

The Report would undoubtedly be useful to the general reader who has not thought very much about the problems of the Far East, although he would probably feel the need for more specific information. A reader familiar with a modest body of current literature on the subject, will find very little that is new. He would, however, be interested in the list of prepared documents which have been mimeographed but are not included in this book.

M. RONALDSON.

The Year Book of World Affairs, 1950. Ed. by G. W. Keeton and G. Schwarzenberger (Stevens & Sons, 1950). Pp. 385. 25/- stg.

It is difficult to see precisely for what type of audience these yearbooks, of which this is the fourth issue, are intended. Up to now each issue has consisted of a number of articles such as may be found in the pages of any semi-popular journal on international affairs, one or two longer and more specialized contributions, and a list of important books of the year. The present volume does not depart from this pattern. It shows little unity of purpose and the level of contributions is very uneven.

Roughly, articles fall into two broad categories: First, semi-popular summaries of subjects which touch on "international affairs." Here we have G. Schwarzenberger on "Sovereignty," written at the schoolboy level; P. E. Corbett on "Law and Society in the Relations of States," pleading for a more realistic and piecemeal approach to international law; H. Shearman on "The British Commonwealth and its Members"—a useful summary though quite neglecting to give due weight to changes in Asia, and containing the rather astounding statement that "the separatism of India, Pakistan and Burma . . . has run closely parallel to the degree in which those countries fall behind Britain in social enlightenment, material civilization and freedom of expression" (p. 115); T. Gibson on "Italy since the War"; H. A. Smith on "The Danube"—a good summary of a complicated issue; J. D. Krivine on "E.R.P."; and S. Strange on "Truman's Point Four."

In the field of more specialized articles we get C. Alexandrowicz on "The Study of International Economics," a rather obscure article with some ideas; H. Kelsen on "Trieste"; G. Ireland on "The Tokyo Trials"—a well documented "anti" point of view, with useful extracts from Judge Pal's Dissent; and F. Heske on "Forestry as an International Problem." Of greatest general interest, perhaps, will be L. B. Schapiro's very careful and well documented article on "The Post-War Treaties of the Soviet Union" in which he traces the growth of a Balkan Federation prior to Tito's break with Moscow, and shows that "the total territory by which the Soviet Union has been enriched as the result of the Second World War is nearly 500,000 square kilometres—or an area as large as France—with a population of some 21 millions" (p. 137).

The book then provides some quite useful summaries, and one or two scholarly articles, but it is hard to see who would pay 25/- for it, or precisely how its contents are supposed to be related to "World Affairs."

HENRY MAYER.

An Essay on National Income and Expenditure in India. By B. Natarajan. Madras. Office of Economic Adviser to the Government. Pp. 102. Rs 3.

Public Finance has developed from a mere balancing of governmental revenues and expenditures, to an attempt to influence the trend of economic forces in the Welfare State. This essay aims at providing information on National Income and the burden of taxation in the Indian Union, essential for the successful prosecution of such a policy.

The approach to the subject has been hampered by lack of data. The author has taken the results of a previous investigator, Dr. Rao, for 1931-32, and has inflated these results in three groups—primary, secondary and tertiary services—by the most appropriate available indexes of price and production changes, giving National Income figures for 1938-39 and 1949-50. These figures applied to undivided (British) India. They were broken down into provincial totals by the use of certain indicators, and the figures for those provinces not now in the Union were discarded.

The author then proceeds to study in considerable detail provincial government revenue and expenditure, and in conclusion, attempts to estimate changes in real income, and in the monetary and real burden of the central and provincial governments' revenue collections. Since there is no available material on income *groupings*, this last investigation is necessarily very general.

Over the war period, the share of primary services in the National Income has increased in all provinces, in spite of the estimated fall in the relative labour force. This was caused mainly by the disproportionate rise in the prices of primary products, which also tended to diminish the still large discrepancy between the per capita incomes in primary, as against secondary and tertiary services.

Taken as a whole, the book contains useful reference material, but this reviewer feels that it could have been improved by greater cross-reference from the conclusion to the body of the book. Instead of such references, in many cases portions of the text have been practically reproduced in the conclusion. In some cases it is difficult to check figures given in the conclusion with the appropriate material given in earler sections (e.g., para. 35 and table, with para. 96 and Appendix I). Furthermore, certain new material is first introduced in the conclusion—for example, Central Government revenues.

From the point of view of readers outside India, the following would have been valuable additions: (1) Sources from which the data were obtained; (2) Some discussion on the structure of the Indian Government, and the financial relations between the central and provincial governments—some of the text is a little difficult without this; (3) A map of India showing the Indian Union; (4) A comparison of per capita income with corresponding figures outside India.

C. S. SOPER.

The Pattern and Finance of Foreign Trade. Institute of Bankers (Europa Publications Ltd., 1949). Pp. 231. 15/- stg.

This book is the collection of a series of lectures given at the Summer School of the Institute of Bankers in September, 1949. The speakers included economists, bankers, industrialists, and politicians; many of them were specialists dealing with their own fields, and although each topic is dealt with in a manner intelligible to the general reader, most of them are necessarily specialized in nature.

In a sense the title is somewhat misleading; various aspects of international trade and finance are carefully examined, but the supreme task of synthesizing these empirical studies into a related pattern has not been well done. It is true that the first lecture (by Sir Hubert Henderson) claims to provide such a framework for later papers to fit, but the reviewer's opinion is that this paper is the least satisfactory one of the series. It was so general that in parts it appeared superficial, and relations with subsequent subjects were generally tenuous. Possibly this was because other papers

dealt mainly with things as they are and Sir Hubert was more interested in what he felt they should be.

This comment does not depreciate the value of the book. Such discontinuity is usually found in any collection of lectures, and must naturally be more marked when contributors deal with fields that however related ultimately seem self-contained to the contributor. The individual works are mostly of great interest and invariably presented in a thoughtful and detailed manner. Different readers will be impressed by different papers according to taste; the reviewer preferred Dr. Kendall's analysis of U.K. shipping, and Hawtrey's study of the effect on the monetary situation of the Treasury, the Budget and the Public Debt (this incidentally advocated a forced loan as the best method of stopping the present progressive inflation). Other topics treated include the I.T.O. Charter, International Trade agreements, the effects of Marshall Aid on intra-European payments, British export practices, insurance, and the raising of long-term capital in London; a full bill of fare whatever one's tastes.

WILFRED T. DOWSETT.

The Statistical Agencies of the Federal Government. By Frederick C. Mills and Clarence D. Long (National Bureau of Economic Research). Pp. 201. $2.00.

The most lasting impression which one gains from this book is of the scope and importance of statistics in the contemporary United States. It is an official report prepared in 1948 by two experienced statisticians for presentation to the Commission on Organization of the Executive Branch of the Government. Dealing descriptively and critically with the work and organization of the Federal statistical agencies, it offers little of interest to the general economic reader; but there is much of value to the statistician and to the research worker who collects or uses statistics.

The more important statistical agencies can be divided into two broad categories—those which are concerned only with statistical work, and those which produce statistics as a by-product of their main functions. In the former group we find five major collection agencies—the Bureaus of the Census, Agricultural Economics, Labour Statistics, Vital Statistics, and Mines. Between them they employed just over half of the 10,000 statistical personnel and spent just over half of the $42 million which the Federal Government spent on these services in 1947-48. Then there is the Division of Statistical Standards whose function is to co-ordinate and improve statistical work, a research laboratory for scientific and engineering statistics, and eight services and analysis agencies.

The second group contains fifty-four government agencies, ranging from the Weather Bureau to the Immigration and Naturalization Service, which collect statistics in the course of their duties, analyse and publish them. They collect between 80 per cent and 90 per cent of all Federal statistics, and extend into nearly every government department.

Two detailed examples of the working of the system are given. From the field of specific collection was chosen the 1947 Census of Manufacturing, the task of the Bureau of the Census. By-product statistics are represented by an analysis of the methods of collection and sampling of the Bureau of Old Age and Survivors Insurance which produces figures on employment, wages, and length of working life.

A considerable portion of the report is concerned with the vital question of co-ordinating the work of these many agencies. They have been called into being by specific interests and circumstances over a long period and their powers and statutory bases differ considerably. This has led to considerable overlapping, over-emphasis on some fields, and important gaps in others. A good deal of co-operation has been achieved by means of dove-tailing data, apportioning jurisdiction, and the use of each other's technical facilities and data. The Division of Statistical Standards has done important work in the standardization of forms, definitions, and classifications, and has settled some demarcation disputes. But too many disputed territories remain, while in some fields too many separate collections are an unnecessary burden on the businessman. Meanwhile there are still many unused by-product statistics and several fields where new collections should be made. Standards of work and the use of the most modern techniques vary considerably, while the training of lower and middle grades of employees is often inadequate.

Good balance between the agencies is made more difficult by the legislature's method of allotting appropriations. This is done by sub-committees in both Houses, usually comprising different persons and each dealing with one department. Statistical appropriations are thus given out piecemeal with no chance for Congress to have a co-ordinated picture of the whole. Furthermore, the necessity of working on annual appropriations is a deterrent to the carrying out of long term statistical programmes.

Nevertheless, American official statistics are more detailed, accurate, and comprehensive than ever before, or anywhere else. The organization has made great progress in the last twenty years in the collection and prompt publication of current statistics, which have proved of great use to the administration and to the public. The co-operation of the businessman has been gained, not only in

collection, but in advice on the adequacy of questionnaires and the availability of data. This pre-eminence means that there is no comparison with the situation in other countries, but Australia can make the comparisons for herself.

N. TREWHELLA.

Money and Organization. By D. C. Reid (Macdonald & Evans, London, 1950). Pp. 128. 10/-.

The purpose for which this book has been written is not clearly expressed by the writer's statement that it "covers a gap between the monetary theories as developed by economists and the study of banking and public finance." It deals with problems of wartime inflation and its consequences, illustrated mainly by financial developments in Britain. Although the writer introduces a large number of new monetary terms, no contribution is made towards a better understanding or a better solution of those problems. Statements are often not clearly argued and in several places the book is open to criticism. In the last chapter a scheme is put forward for financial control by the Government of the expansion of industry in Britain. This scheme runs as follows.

To enable the Government to control not only the new capital issues of business and industry, but also the spending power already at their disposal in the form of bank deposits and gilt-edged securities, it is suggested that they be forced to exchange their "surplus financial resources" in the above-mentioned form for "industrial deposit receipts," to be issued by the Treasury and under complete control of the Government, which would release funds on application only. An additional scheme is suggested for "tapping" the non-industrial holdings of Government securities and the surplus bank deposits of individuals. The manner in which this second scheme is presented leaves much to be explained and is very confusing. It seems that the writer wants to encourage capital expansion in certain industries by making it possible for Government securities in the hands of non-industrial investors to be exchanged for shares in new capital issues by those industries, at rates fixed by the Government. In exchange for those securities, the Government would then presumably provide cash for those industries. With regard to both schemes, it may be stated that the reviewer approves of neither the political proposals which the writer seems to favour nor the economic argument offered in support of them. The book is illustrated by nine tables, half of which do not mention sources of information.

A. J. REITSMA.

Intellectual Capitalism. By Johannes Alasco (World University Press). Pp. 140. $3.00.

In this book the author attempts to outline the kind of society towards which capitalism is evolving and to explain the way in which the change is taking place. It belongs to a growing class of theories of which the most familiar are probably those expounded by Burnham in *The Managerial Revolution* and Schumpeter in *Capitalism, Socialism and Democracy.*

As with Burnham and Schumpeter, Alasco sees the separation of management and control from actual ownership of capital assets as the most significant development in capitalist evolution. Ownership was a powerful social factor when it was associated with control over means of production. Now, ownership is not associated with concrete things but mainly represents claims to a share in the earnings of corporations. Actual control of productive resources rests more and more in the hands of executives who are not their legal owners. The latter are, to use the author's expression, jobholders as opposed to stockholders.

In Alasco's analysis, however, the "jobholders" are not a single class but are divided into those whose main task is production and those who are mainly concerned with selling. The interests of these two classes are not always the same; the production manager in particular often feels that he is being held back by the policy of directors whose main interest is sales strategy. At present most corporations are controlled by men whose outlook is mainly financial and not technical. Alasco calls the production executives "P-men" and the financial executives "F-men."

The future of society, Alasco believes, lies with the "P-men," the men who can organize large production units and, generally, direct the productive resources of society towards greater output. The position of the "F-men" largely depends on the existing ownership of capital—i.e., mainly private ownership, in the United States at least. Ownership, however, may pass into the hands of the State and with the over-all economic planning that would follow, the function of the "F-men" would disappear.

On the other hand, the need for "P-men" would be even greater since the task of managing large state enterprises would place a great premium on executive ability. It is this kind of ability—executive, technical, scientific—which is the essential factor in modern industrial society. It is this kind of ability which makes physical assets productive. It is this "intellectual capital" which is the scarce and the controlling asset. Hence the owners of this kind of capital, not the owners of physical capital, are tending to assume

a more important role in society. They would assume their controlling position under state ownership of capital.

So far, Alasco's theory is not greatly different from Burnham's but at this point he goes further and enters the realm of speculation about the future of the ownership of the means of production after the first stage of the transfer of physical assets to state ownership. It is part of Alasco's thesis that ownership and control cannot long be separated. Those in control will eventually assume ownership of the capital they use just as feudal vassals gradually appropriated the land which, legally they held from the king. In this case, however, the "intellectual capitalist" will not be interested in obtaining possession of the physical capital which he controls but will appropriate a claim on the income of that capital which will represent the immaterial or intellectual asset which he "owns." In other words, Alasco envisages a society in which physical capital is owned by the State but is controlled by a class of executives who are able to obtain special privileges for themselves and maybe even pass them on to their descendents. There will still be room for enterprise by the élite in such a society and it will still be "capitalist" in that the controlling asset will be "intellectual capital."

This, in brief compass, is the essential framework of Alasco's theory, in so far as the reviewer has understood it. It is a stimulating thesis and the kind of theory which gains interest to-day as the implications of the extensive nationalization programme in Britain gradually emerge. The Marxian theory of capitalist evolution has for a long time represented the only systematic attempt in this field and as experience demonstrates that it is far from sufficient to explain present day trends in at least the parliamentary democracies a more satisfactory explanation is required. This is gradually being built up although events are moving at a speed which might out-distance the theory.

Many issues are raised by Alasco's book—too numerous to be dealt with in a short review. His use of terms, however, seems to be too specialized and unusual to help clarity. His attempt to describe the emerging society as a form of capitalism is an example of this. Terms such as "capitalism" and "socialism" are already too vague for use without careful definition in a scientific analysis of the complex economic and social systems of to-day and to stretch them still further seems to be inviting confusion. A more important criticism is that, like Burnham, Alasco seems to have overlooked the fact that executive ability is not the same as political ability and that in the form of society he envisages political ability will probably be more important than any other and its possessors will probably direct who possess "intellectual capital." The latter may enjoy a

privileged position but not a determining one. The Labour Government in Britain seems already to have realized the danger of the "over-mighty" executive by the wide powers of direction over the nationalized industries which have been reserved for the Government.

E. E. WARD.

Structure of the Cotton-Mill Industry in India. By M. M. Mehta (Central Book Depot, Allahabad, 1949). Pp. 328. Rs 12/8.

This book is a study of recent trends in the size and location of units in India's cotton textile industry, and their relation to industrial efficiency. Material, primarily from the Bombay and Ahmedabad centres, is subjected to a quite minute examination (120 pages) which enables the author to conclude that the average size of the industrial units concerned expanded considerably between 1905 and 1944, and it was possible for him, not unexpectedly, to establish a positive correlation between size and efficiency. A similarly exhaustive study is made of the regional distribution and comparative regional efficiency of the industry.

The quantitative analysis, the patient assemblage of data, which this book embody are of the type extremely valuable to the economist and economic historian alike. The author's brief excursions into the qualitative and theoretical fields, however, are somewhat unfruitful.

Unfortunately the work is marred by technical defects in the printing—defects on a rather major scale, like the omission of all figures from one table, the absence of some pages and the repetition of others.

A. BARNARD.

Problems in the Collection and Comparability of International Statistics. Milbank Memorial Fund. Pp. 165. 50c.

The Milbank Memorial Fund has now published in one volume the papers which were presented at the round table on International Statistics at the 1948 Annual Conference. Most of the papers have already appeared in the Fund *Quarterly*, and the collected volume gives a broad sweep of the range and vigour of the present movement in international statistics.

Professor Walter F. Willcox's opening paper traces the development of the International Statistical Institute out of the statistical societies of the first half of the nineteenth century, while Dr. W. R. Leonard, Director of the Statistical Office of the United Nations, concludes with a survey of the difficulties which must be overcome in the future development of international statistics. He emphasizes that the real hope lies in the establishment and improvement of

national systems. Of the remaining nine papers, three deal with the work of W.H.O., F.A.O., and I.L.O., and the others with more specific fields and problems. It is unfortunate that the work of the International Monetary Fund is not appraised.

Mr. Max Lacroix's paper on migration statistics is the most substantial of the six more specialized contributions, and is one of the two not previously published. He poses clearly the problems of international comparability in a field which is international of its nature, and his survey inclines one to the view that improvement of national statistics in this and the other truly international field—foreign trade—may not be sufficient, and that some system of international supervision may be necessary.

The other previously unpublished paper is that of Dr. Dudley Kirk on population statistics. His survey of the elements of non-comparability in population totals—to say nothing of population composition and characteristics—brings into perspective the false appearance of accuracy of national population totals. "Two or three million persons may well have been omitted in the last United States census" and "The official 463,493,000 (for China) might quite possibly be as much as 100 million in error" are phrases which might well make the demographer pause—and the Australian statistician consider what the omission might have been in the last Australian census.

The other papers might be described in broad terms as illustrating the conflict between the need for international comparability and for national comparability—comparability between places and comparability between times. The issue depends primarily on whether the international or national use is more important but a compromise is, of course, frequently possible which will prejudice neither use. A most promising field for international statistical organizations is fostering such compromises. The problem is the problem of State and Commonwealth statistics on the grand scale and Dr. Taeuber, in his paper on food and agriculture statistics, bases his warning against over-simplifying the difficulties of international co-operation on the experience of countries without centralized statistical offices.

H. P. BROWN.

A Study of Economic Plans for India. By D. S. Nag (Bombay, Hind Kitabs, 1949). Pp. 177. Rs 5/8.

In this small volume Professor Nag summarizes a series of economic reports which were issued by the National Planning Committee of the Congress, the Bombay Plan, the People's Plan; as well as the economic plans and policies of the wartime, interim and new

Indian Government. Included in the Appendices are statements of the Resolutions of the Industries Conference (December, 1947), the report of the Congress Economic Programme Committee (January, 1948), the Industrial Policy of the Government of India (April, 1948) and a summary of the Birla Plan for Industrial Development (May, 1948).

Professor Nag suggests that the objectives of a Planned Indian Economy should be: (a) a National Minimum with a progressive rising scale of amenities and comforts; (b) national self-sufficiency (by which, it is gratifying to note, the author does not mean "Economic Nationalism" or "Autarky") and (c) organized defence. Although there appears to be very little disagreement concerning these long-term objectives of economic policy it appears that Indian opinion is divided as to the best means of attaining these ends. One section prefers private enterprise and the maintenance of the status quo but another section has a strong preference for socialism and the nationalization of industry. Professor Nag is an able advocate of the latter course of action and criticizes the Government for soft-pedalling on the nationalization issue, but the Government has doubtless found out that it has quite enough to contend with already, without burdening itself still further by the wholesale nationalization of industry.

Although independence and partition have rendered most of these economic plans obsolete, the reader will find much useful information relating to proposals for the economic reconstruction of the Indian economy, which is not readily available from other sources.

D. W. OXNAM.

Public Finance and National Income. By H. M. Somers (The Blakiston Co., 1949). Pp. 527. $5.00.

In this book the author attempts "to integrate into the subject matter of 'Public Finance' some of the major developments in government policy, economic theory and business cycle analysis." Thus, in addition to the traditional aspects of public finance there is a substantial discussion of recent developments in the analysis of income determination. There is, for instance, brief discussion of five or six multiplier variants, and a more comprehensive treatment of the acceleration principle, Tinbergen's efforts at empirical measurement of this principle and the "Ricardo effect." Consequently, the book is not an easy one and will be better suited to students in their final year who have had sound instruction in monetary and business cycle theory. While it covers roughly the same ground as Mrs. Hicks's *Public Finance,* in general the approach is more theoretical and difficult and the examples for the most part are American in origin.

The book is planned in six parts—the place of government finance in the modern economy, government expenditures, taxation, government borrowing, state and local finance, fiscal policy and economic activity. The treatment in the last section follows closely the author's contributions to recent American journals. The quality of the printing and the illustrations is superior to most books and valuable as is the author's treatment of the subject matter, students will find most helpful the copious references to allied literature on the various topics he discusses.

R. HIRST.

Government and Business. By Ford P. Hall (McGraw-Hill, New York, 1949). Pp. 594. $5.00.

This is the third edition of a work which is concerned with the participation by State and Federal Governments of the United States of America in business affairs either by way of regulation and control or by actual ownership and operation.

The earlier chapters of the book deal in a general way with the methods and administrative machinery of control, and clarify certain constitutional issues, thereby providing an indispensable background to a study of the more detailed treatment of state intervention which follows. But it seems to the reviewer that the introductory chapter, which attempts to summarize in the short space of seventeen pages the principal political theories of the appropriate role of the state in economic matters, might well have been omitted.

There follow seven chapters on transport agencies and public utilities, three on financial institutions, and several on government activity in relation to bankruptcy, patents, copyrights, trade-marks and securities. Two chapters on legislative attempts to maintain competition handle this topic most faithfully and with great clarity. The concluding four chapters outline the extent of public enterprise and summarize its record.

For teaching and research purposes the third edition of "Government and Business" should be invaluable both by virtue of the volume of its references and the width of its scope, the relations of government to labour and agriculture being the only significant omissions.

D. M. HOCKING.

The Spirit of Russian Economics. By J. F. Normano (Dennis Dobson, London, 1950). Pp. 130. 8/6 stg.

This is the English edition of a book published in the United States several years ago—a very stimulating book, and one of considerable interest—not only to the student of the growth and spread

of economic ideas, but, at the relatively modest price of 8/6 sterling, a must for the news commentator and leader writer: indeed, for the propagandist-at-large on current affairs, who must read as he runs—whether with the hare or the hounds. This is the sort of book which, if undocumented, I would be inclined to put in the waste-paper basket. But Mr. Normano's references are frequent, scholarly, and given with meticulous accuracy and order of detail, indicating the hard work and mature judgment which are the foundations of his book.

The general faults may be indicated first, not in a carping spirit, but because a consideration of bibliographical detail leads the reader to them. The author obviously has more detailed information on pre-1917 Russia than he has of the Gosplan period, and that means, on his own evidence, of modern Russian economics, for "the real school of economics in Russia is, of course, the Gosplan with all its numerous branches and sections" (p. 99). There is some rather annoying cataloguing in the earlier chapters, and, sometimes, a specious air in the latter ones. But despite this the book holds together well, being tied by certain general ideas.

These general ideas suggest, firstly, a simplicity and continuity of Russian thought and action, evident in various directions, which have provided a general intellectual atmosphere for the last 150 years. Thus, when reading of the nineteenth century amateurs of political economy, and the collective spirit and "appeal of the primitive" of those days, one could easily imagine these words being written by an expert such as Calvocoressi, of *The Five*, and as being especially applicable to Rimsky-Korsakov or Moussorgsky: "But even the genuine native Russian theories attempting the defence against imported ideologies, adorning them in picturesque national clothes, trying to save the Russian-Slavic national face, the old Russian social features, constantly dreaming of messianic offensives—even these currents in their effort to cover up, to defend Russian economic backwardness by making a virtue of it, even they found their inspiration and wisdom in foreign sources" (p. 15). Russian intellectuals, in the spheres of the arts and sciences, seem to have been then, and now, remarkably homogeneous. As a result, a knowledge and understanding of their ideas and actions in one sphere is valuable for interpretation in another. Their uniformity over time, too, puts only a small and unimportant gap between such people as Borodin and Prokofiev, and between the old political economists and the new. (cf. p. 108, para. 2.)

The next idea which is worth special notice is the oriental undercurrent of Russian thought and policy, which is cleverly illustrated here, particularly in relation to post-Revolution policy.

Finally, at the general level, a "messianic zeal" is shown to be a part of thought and policy, particularly to-day—despite the defeat of Trotskyism.

Turning to Economics, Russian thought has been largely untouched by ideas of the significance in society of the individual. For this reason, the ideas of Adam Smith, whilst popular with a coterie for a time early in the nineteenth century, were eventually overwhelmed by imported German nationalism in the second half of the century. These suited contemporary ideas of collective advancement, but later received violent repudiation along with all other German influences. The fundamental distinction between East and West seems to lie in the contrasting ideas of collectivity and of individualism.

The spirit of Russian economics is part of the spirit of Russia, and this is old and organic; not a modern product but re-organized and redirected in recent times.

Each chapter of this book bears a suitable quotation from a Russian classic, and Pushkin's *Eugene Onegin* serves on several occasions:

> "But he was well-read in Adam Smith,
> And was a deep economist."
> "He talked about the wealth of nations;
> The state relied his friends were told,
> Upon its staples, not on gold."

Did Tschaikovsky use these lines in his opera, one wonders? If so, a modern audience in the Bolshoi Theatre should greet such sentiment with the same affection as grew up for the poem in old Russia.

CYRIL RENWICK.

Economic Structure and the Ceremonial Exchange Cycle in Arnhem Land. By Donald F. Thomson (Macmillan & Co. Ltd., Melbourne, 1949). Pp. 106. 15/-.

This monograph is a distinguished study of its subject; it is incidentally an excellent short introduction to the life of the Australian aborigines and to the drives or incentives of aboriginal society. It is true that it is concerned with a particular exchange cycle in eastern Arnhem Land, an area which, in the fragmentation of the people into more or less closely grouped clans and the absence of a definite tribal organization, is not typical of Australia as a whole. Nevertheless, the general reader will learn much, in Dr. Thomson's vividly documented study of this area, that is true—or was true—of aboriginal life through all its considerable variety in Australia. For the understanding of the ceremonial exchange

cycle requires a wide range of varied information ranging from the collection and preparation of food to the role of the concept of *marr* (*mana* or 'spiritual virtue').

The data from which Dr. Thomson was able to discover and chart the ceremonial exchange cycle fall into three main types—the unremitting industry of the people, the constant giving and receiving of gifts in accordance with the traditional obligations of kinship and friendship, and finally the discovery of products of particular districts hundreds of miles from their source, despite the obstacle presented by the fragmentary social organization of that area to exchange of goods. If such exchange is usual, it was at least surprising to find in the Roper River area, where iron can be plentifully obtained from stations, iron spearheads from the north coast where iron is hard to come by.

Dr. Thomson writes, "For a couple of hours during the heat of the day the natives rest. But they are rarely idle; even during these halts the men may often be seen squatting before little fires, making or repairing spears or other weapons. The women also take advantage of such respites to work at the string or mesh baskets which they carry rolled up in a half finished state, just as a white woman may take up knitting or other handiwork in moments of leisure . . . The first impression that any stranger must receive in a fully organized group in Eastern Arnhem Land is of industry."

Dr. Thomson examines the drives to this industry and finds them to be traditional and social rather than economic. Totemic tradition governs the manner of work and the use to which its products are put. The obligations to make and to reciprocate gifts keep the natives continually at work. To fail to repay a gift would be to incur the intolerable burden of losing face; it would also be to incur real danger, either from secret magic by way of reprisal or from the spiritual power or *marr* of the unreciprocated gift—for *marr* can be dangerous as well as helpful. To carry out one's obligations is on the other hand to gain, not only social prestige, but a sense of spiritual satisfaction or euphoria. There is a social and spiritual compulsion to make gifts, but there is no exact weighing of gift against expected gift, no calculated barter. The gift is determined, not by the expected return, but by the traditional and social obligations of kinship or friendship and by the desire for spiritual satisfaction. Dr. Thomson analyses the great variety in giving and in classes of gifts. Gifts fall into sacred and non-sacred groups. Sacred gifts carry *marr*, and the anticipation of the ceremonies accompanying the giving is a powerful incentive carrying the native through the drudgery of manufacture or over the reluctance to part with something he values.

Giving is not indiscriminate or without pattern. It follows traditional obligations, and it follows certain geographical patterns. Dr. Thomson has traced five separate sectors of eastern Arnhem Land, clearly shown in an end map, between which ceremonial exchange takes place. *Gerri* or material possessions are never returned to the sector from which they come, but always move away from it. The drive is traditional and ceremonial; but under cover of it there takes place exchange of economic value, by which the specialized products of particular sectors, such as the flint spear heads of the Kumur Djalk or south-eastern sector, reach other areas which lack them.

While ceremonial exchange no doubt existed long before, Dr. Thomson finds a special impetus to it in the visits of Macassar seamen in comparatively recent times to the north coast of Arnhem Land and the valued objects brought by them. The concluding chapter analyses the influence of Indonesian culture on the exchange cycle and contains some criticism of Professor Warner's view (in *A Black Civilization,* 1937) of the resistance of Arnhem Land natives to outside influences. Dr. Thomson nevertheless shows that such influences could be absorbed only by being incorporated in traditional ritual, and thereby again stresses the traditional and ceremonial drives governing native behaviour. The point is of an importance beyond study of a particular aboriginal culture; for the anthropologist may suggest to the sociologist, if not to the economist, the significance of social prestige in the buying and giving of European societies.

This book is written vividly and with a distinguished economy of words. It is illustrated with eleven photographs, some of great beauty, and with two maps of the exchange cycle.

R. M. CRAWFORD.

The Economic Pattern. An Elementary Text Book for Australian Readers. By Cyril Renwick and G. A. J. Simpson-Lee (Longmans, Green). Pp. xix + 358. 18/- Aust.

The expressed aim of the authors is to show economics as a living study which can make an important contribution to the understanding of current problems by school pupils and young adults.

Their stress that "the science of economics is concerned . . . with human beings" and that "individual and group action lie at the bottom of the whole economic process," colours their presentation of the pattern of life and thought they find showing through all the changes in contemporary life. The reader is led through the introduction to the basic elements of economic analysis, lightened

with some description of types of economic systems and aspects of Australian economic life, to the more difficult ideas associated with the circular flow of the economy with emphasis upon the nature of controls exercised by the government in the semi-planned economy. In these two parts the authors set forth statically the economic pattern. Each part is provided with a short, apt summary.

Parts Three and Four show the play of change in "The Development of the Economy" and "The World Economy." It is here that students are offered an introduction to post-Keynesian analysis and to elements of social accounting. Here they have instances of the modifying of economic institutions, and the expression of post-depression ideas. Part Four brings the reader face to face with the problems of economic relationship on a world scale, of the break-down of earlier economic institutions, of establishing and developing new relationships on a basis rather broader than that of "sauve-qui-peut."

"The book is designed in the first instance to meet the needs of the recently revised syllabus in economics for the New South Wales Leaving Certificate examination." So states the foreword. New South Wales appears to be ambitious in its programme for that examination. The book has, however, a much wider interest than that of a text for that particular use in that State.

For those who are using it as students and as teachers it has the advantage not only of its attractive unity but also of its selected material for supplementary reading, its notes and exercises for individual and group activity. In both reading and exercises ample provision is made for the searching, active mind, indeed, at a level beyond that generally to be found at a Leaving Certificate standard. The frequent use of Australian documentary material has the advantage of introducing the reader to the handling of readily available material dealing with the Australian economy. It is good to know that in New South Wales, at least, it is accepted that schools where young students are making their first acquaintance with the formal study of this branch of social studies shall be adequately provided, not only with Australian documentary material but also with sufficient copies of contemporary writings in economic theory to enable the young students to use material suggested in the reading lists attached to each chapter. One of the values of the book, particularly to teachers whose training has included a study of economics, will be as a stimulant to experiment at the level appropriate to their particular students.

Perhaps the very compactness of the presentation and the assumption that the reader will make the necessary active effort to supplement or to examine ideas have resulted in statements that unsupported may prove misleading or difficult. An instance appears

in Chapter 5, Section 1, dealing with the unplanned economy, Britain in the period 1850-1870, where the following statement is used: "The British economy as a whole was considerably dependent on its colonies to provide food and raw materials." Which foods? How considerably? To what extent as compared with supplies drawn from other than colonial areas? To what extent as compared with supplies drawn from the "invisible empire"? Of another kind is the short-coming in the introduction to Chapter 8, dealing with the economic aspects of population changes. Here it seems that greater use might be made of a lively natural interest in problems of change well within the grasp of young readers. Still another instance is offered in the comments on home consumption prices and subsidies as measures used to enable Australian products to be marketed at world prices. " . . . home consumption prices are often stabilized by government action at a level which enables the products to reach their markets with lowered *costs*" (p. 83). "Subsidies to export firms may hold down costs" (p. 312). In an elementary study it would make for clearer interpretation to emphasize still more strongly the meeting of part of the producers' costs by Australian consumers or taxpayers, and the resulting selling of the Australian goods in world markets at world prices.

The plan and arrangement of material, the short chapters, the clear diagrams and tables, the summary to each part, the reading list, exercises and notes relating to each chapter are all designed to make a practical approach to the study of the economic pattern.

The attraction of *The Economic Pattern* lies in its balance and integration of ideas. It is a book that, used as its authors intend it to be, would serve to point the way for more than the young sixteen and seventeen year old students in their final years of a Secondary School. It may be used with advantage by many University students and others making their first approach to social studies. It goes indeed a long way to provide the Australian beginner with the means of effecting a grasp of basic theoretical principles and of showing him how, through practice, he may apply those principles to the answering of questions about current problems.

MERAB TAUBMAN.

BOOKS RECEIVED—DECEMBER, 1950*

ADAMS, WALTER (Ed.): *The Structure of American Industry* (Macmillan, New York, 1950). 36/-.
To be reviewed.

AMERICAN ECONOMIC ASSOCIATION: *Readings in the Theory of International Trade* (Allen and Unwin, London, 1950). 30/-.

AMERICAN ECONOMIC ASSOCIATION: *Readings in Business Cycle Theory* (Allen and Unwin, London, 1950). 25/-.
These two volumes are English reprints of two of the well-known selections of articles in the American Economic Association series. They are now automatically included in bibliographies for courses in the appropriate field. The sterling price is substantially less than the present equivalent of the original dollar price, and teachers and students of economics will be glad that the volumes are now more readily available.

AUSTRALIAN CONGRESS ON ACCOUNTING: *Proceedings, Sydney, November, 1949* (Sydney, 1949).
Sponsored by the five leading institutes of accountants in Australia, a national congress was held in Sydney during November, 1949. These proceedings embody the texts of the papers prepared for the technical sessions, together with the prepared comments of selected commentators and replies by the speakers and (in most cases) a summary of the discussions from the floor. The topics included cover accounting standards, audit practice, the future role of the accountant, the influence of economic ideas on accounting, cost accounting for management, responsibilities of accountants and the status of the accountant.

BINDER, RUDOLF: *Die Belastung durch die persönliche Einkommensteuer in Deutschland, England und den Vereinigten Staaten* (Kiel, 1950). D.M. 15.
To be reviewed.

BLOOMFIELD, ARTHUR I.: *Capital Imports and the American Balance of Payments, 1934-39* (University of Chicago Press, 1950). $6.00.
To be reviewed.

BRITISH COLUMBIA, BUREAU OF ECONOMICS AND STATISTICS: *British Columbia Trade Index* (Victoria, B.C., 1949). $1.00.

CHAMBER OF COMMERCE OF THE UNITED STATES: *Investment for Jobs* (Washington, 1950). 25 cents.

CLARKE, VERA M.: *New Times, new Methods and new Men* (Allen and Unwin, London, 1950). 10/-.
To be reviewed.

COATMAN, JOHN: *The British Family of Nations* (Harrap, London, 1950). 19/6 Aust.
To be reviewed.

COHEN, JEROME B.: *Japan's Economy in War and Reconstruction* (Minnesota University Press: London—Geoffrey Cumberledge, 1949). 60/-.
To be reviewed.

COMMONS, J. R.: *The Economics of Collective Action* (Macmillan, New York, 1950).
To be reviewed.

COMMONWEALTH ECONOMIC COMMITTEE: *Grain Crops* (H.M.S.O., London, 1950). 5/-.

COMMONWEALTH ECONOMIC COMMITTEE: *Dairy Produce* (H.M.S.O., London, 1950). 5/-.
Valuable statistical surveys and discussions of production and trade for the decade 1938-48, with appendices on import duties and on government measures affecting cereals and dairy products.

* Prices are sterling unless otherwise stated.

EGNER, ERICH: *Wirtschaftliche Raumordnung in der industriellen Welt* (Walter Dorn, Bremen—Horn, 1950). D.M. 4.
To be reviewed.

EINAUDI, LUIGI: *Scienza Economica ed Economisti nel Momento Presente* (Turin, 1950). Lire 200.
A lecture delivered by the distinguished economist, now President of the Italian Republic, at the opening of the academic year in the University of Turin. Special attention is given to the task of the economist "who, having left his ivory tower, finds himself in the world where passions rage and men are at conflict between themselves." There is an English translation in the *International Social Science Bulletin* (UNESCO), Vol. II, No. 2.

ELSAS, M. J.: *Umriss einer Geschichte der Preise und Löhne in Deutschland*, Vol. 2 B (Leiden, 1949). Fl. 12.50, cloth; Fl. 10.00, unbound.
To be reviewed.

FEDERAL RESERVE BANK OF NEW YORK: *Thirty-fifth Annual Report* (New York, 1950).

FOSTER, F. L.: *Operating Results of Department and Specialty Stores in 1949* (Harvard Business School, 1950). $5.00.
The results in brief of this statistical survey, based on data submitted by 456 firms in the United States and Canada were: "Department store sales in 1949 declined for the first time since 1938, marking at least a halt in an inflationary period that had multiplied dollar sales 2.8 times in ten years. A major factor in this downturn was the first drop in the general price level since war's end, a fall only partially counteracted by an increase in the number of transactions completed. In contrast to declining prices, expenses continued to march upward as a percentage of sales while remaining level in dollar amount. Meanwhile, gross margins slipped, resuming a downward trend begun in 1944. This fall in gross margin reflected a sharp increase in markdowns, 1949 being the fifth year in the last six in which markdowns have risen. Lower gross margins coupled with a rising expense rate combined to cut profits drastically. Net operating profit fell 41 per cent from the 1948 level, while net gain before taxes was off 27 per cent. It is estimated that final dollar earnings after taxes also dropped 27 per cent from 1948, to represent the poorest earnings percentage realized for the department store business since 1938."

GIORELLO, ROSMUNDO: *Razas Lecteras Y Seleccion Racional* (Ministerio de Agricultura Y Ganaderia, Buenos Aires, 1950).

GOVERNMENT OF INDIA: DIRECTORATE OF INDUSTRIAL STATISTICS: *First Census of Manufactures, 1946.* Two volumes (New Delhi, 1949). *Second Census of Manufactures, 1947.* Two Volumes (New Delhi, 1950).
To be reviewed.

GOVERNMENT OF INDIA. DIRECTORATE OF INDUSTRIAL STATISTICS: *Monthly Statistics of Cotton Spinning and Weaving in Indian Mills.* June-July, 1948. August-December, 1948. 1/9 and 2/9.

GRIFFIN, CLARE E.: *Enterprise in a Free Society* (Irwin, Chicago, 1949). $5.00.
To be reviewed.

GROSS, HERMANN. *Facts and Figures relating to the Disintegration of the I. G. Farbenindustrie Aktiengesellschaft* (Kiel, 1949).
This consists of statistics, illustrated by diagrams, from which the conclusions are drawn (1) that the units of the I.G. concern remaining in Western Germany together represent 42 per cent of the book value of I.G.'s fixed assets in 1944, and the three main units into which it has been proposed to split up the concern, 34 per cent (2) that the present turnover of these three units ranges from 3.6 to 5.5 per cent, and the staffs from 3.8 to 7.7 per cent of the total for the I.G. concern in 1943 (3) and that therefore the proposed splitting up would reduce the West German chemical industry to a number of small firms unable to compete in the world market.

GUTHRIE, JOHN A: *The Economics of Pulp and Paper* (State College of Washington Press, Washington, 1950). $2.50.
To be reviewed.

HARTLAND, PENELOPE C.: *Balance of Interregional Payments of New England* (Brown University, Rhode Island, 1950).
To be reviewed.

HAWTREY, R. G.: *The Balance of Payments and the Standard of Living* (Royal Institute of International Affairs, London, 1950). 8/6.
To be reviewed.

HEECKT, HUGO: *Strukturwandlungen und Nachkriegsprobleme der Wirtschaft Norwegens* (Kiel, 1950). D.M. 2.50.
To be reviewed.

HICKS, J. R.: *A Contribution to the Theory of the Trade Cycle* (Oxford, Clarendon Press, 1950). 10/-.
Reviewed in this issue.

HORACE PLUNKETT FOUNDATION: *Year Book of Agricultural Co-operation, 1950* (Blackwell, Oxford, 1950). 21/-.
This well-known annual has short surveys of the recent position, and in some cases the history, of consumer's co-operation in many countries of the world. There are articles on the Place of Co-operation in National Economy, the Taxation of Co-operatives and the Co-operative Distribution and Manufacture of Agricultural Machinery. It is an essential reference book for its subject.

HORNSCHU, HANS-ERICH: *Die Entwicklung des Finanzausgleichs im Deutschen Reich und in Preussen von 1919 bis 1944* (Kiel, 1950). D.M. 12.
To be reviewed.

INTERNATIONAL LABOUR OFFICE: *Action Against Unemployment* (Geneva, 1950). 9/-.
To be reviewed.

INTERNATIONAL LABOUR OFFICE: *Report of the Director-General (33rd Session)* (Geneva, 1950). 6/-.
The Report for the Thirty-third session of the International Labour Conference is overshadowed by the fact that "the world still lives in camps of fear and division." In an introductory chapter the economic events of 1949 are analysed, with emphasis upon the two main problems of restoring equilibrium in international trade and increasing the pace of economic development in countries lacking capital equipment and skill. The magnitude of the dollar gap is almost certainly too great to be met by devaluation alone. Further revival of intra-regional trade, especially between Europe and Asia, is essential; and this involves expansion of the capital equipment of underdeveloped countries, preferably with the aid of long-term dollar loans. Regional co-operation among underdeveloped countries is important. The main special emphasis of the Report is upon the question of the productivity of labour which is examined in detail in chapter III. General problems of utilization of resources lead on to a discussion of vocational training, methods of wage payment, etc. The widespread activities of the I.L.O. are surveyed in chapter IV.

ISE, JOHN: *Economics.* (Revised edition.) (Harper & Bros., New York, 1950.) $5.00.
The second edition of a text-book reviewed in the *Economic Record* for December, 1946. There has been considerable re-arrangement and a good deal of re-writing, especially in the monetary chapters. Keynesian theory has been "injected" at various points. The author confesses that changes in the world situation have influenced the tone of the book in a more conservative direction. It remains one of the more interesting texts on the massive American model

JEFFREYS, JAMES B., assisted by MACCOLL, MARGARET, and LEVETT, G. L.: *The Distribution of Consumer Goods.* National Institute of Economic and Social Research, Economic and Social Studies, IX. (Cambridge University Press, 1950.) 35/-.
To be reviewed.

JOHNS, J. R. H.: *Metropolitan Government in Western Australia* (University of Western Australia, Text Books Board, 1950). 5/6.
A survey, mainly descriptive and historical, of the problems of government in the metropolitan area of Perth, Western Australia. Students of public administration in Australia have very generally neglected the experience of Western Australia, partly because of the lack of available material. The present essay modestly but usefully does something to fill the gap.

JOHNSON, D. GALE: *Trade and Agriculture, a Study of Inconsistent Policies* (Wiley, New York, 1950). $2.50.
To be reviewed.

KAPP, K. WILLIAM, and KAPP, LORE L.: *Readings in Economics* (Barnes and Noble, New York, 1949). $2.75.
To be reviewed.

KEEZER, D. M. and ASSOCIATES: *Making Capitalism Work* (McGraw-Hill, New York, 1950). $5.00.
To be reviewed.

LASKI, HAROLD J.: *Trade Unions in the new Society* (Allen and Unwin, London, 1950). 10/-.
To be reviewed.

Le Plan Quinquennial de la Republique Populaire Hongroise (Budapest, 1950).
Illustrated by elegant diagrams, this pamphlet sets out the planned levels of output in various sectors needed by 1954 to transform the Hungarian economy to one in which industry instead of agriculture will be preponderant, and the Hungarian people will live in a prosperous, socialist, strong and cultured community.

LEVY, A. B.: *Private Corporations and their Control.* Two vols. (Routledge and Kegan Paul, London, 1950.) 70/-.
To be reviewed.

LITTLE, I. M. D.: *A Critique of Welfare Economics* (Oxford, Clarendon Press, 1950). 28/-.
To be reviewed.

MEES, C. E. KENNETH, and LEERMAKERS, JOHN A.: *The Organization of Industrial Scientific Research* (McGraw-Hill, New York, 1950). $5.00.
To be reviewed.

MEHTA, J. K., and AGARWALA, S. N.: *Public Finance, Theory and Practice* (Kitab Matal, Allahabad, 1949).
To be reviewed.

MOOD, ALEXANDER M.: *Introduction to the Theory of Statistics* (McGraw-Hill, New York, 1950). $5.00.
To be reviewed.

MOORE, GEOFFREY H.: *Statistical Indicators of Cyclical Revivals and Recessions* (National Bureau of Economic Research, New York, 1950). $1.50.
To be reviewed.

MUNSHI, M. C.: *Comparative Wage Levels—Agricultural and Industrial* (Hind Kitabs, Bombay, 1950). Rs 2/8.
To be reviewed.

NANJUNDAN, S.: *Indians in Malayan Economy* (Office of the Economic Adviser, New Delhi, 1950). 2/6.
An examination, with considerable statistical detail, of the part played by Indians in the development of the Malayan economy. There is information about occupations, migration, social condition and investment activities of the Indian members of the population of Malaya, who in 1947 numbered over 600,000 or 11 per cent of the total.

NATIONAL BUREAU OF ECONOMIC RESEARCH: *Studies in Income and Wealth,* Volume 12 (New York, 1950). $6.00.
To be reviewed.

NATIONAL BUREAU OF ECONOMIC RESEARCH: *New Facts on Business Cycles.* By Arthur F. Burns. (30th Annual Report, New York, 1950.)

Part I of this Report contains a few facts which have been derived from the National Bureau's empirical research into business cycles over the past 20-30 years. Burns distinguishes two cycles in economic activities. First, the normal cycle 'seen' by following the course of economic aggregates such as total employment, an index of industrial production, etc. Second, there is a cycle obtained by analysing the distribution of the expansions and contractions which are continuously taking place within these aggregates. This second cycle is 'unseen' to the ordinary observer and is found to *lead* the 'seen' cycle at all the turning points. While no reasons for this phenomenon are given it is suggested that it may prove useful for forecasting purposes.

Parts II and III of the Report contain accounts of publications and research activities of the Staff.

NEFF, FRANK A.: *Economic Doctrines* (McGraw-Hill, New York, 1950). $4.50.

To be reviewed.

NEWBURY, FRANK D.: *The American Economic System* (McGraw-Hill, New York, 1950).

To be reviewed.

NEW ZEALAND, REHABILITATION BOARD: *Report for the year ended 31st March, 1950* (Wellington, 1950). 9d.

PHELPS, ORME W.: *Introduction to Labor Economics* (McGraw-Hill, New York, 1950). $4.50.

To be reviewed.

RENOLD, C. G.: *Joint Consultation over Thirty Years* (Allen and Unwin, London, 1950). 18/-.

To be reviewed.

REPUBLICA ARGENTINA: *Almanaque del Ministerio de Agricultura de la Nacion* (Buenos Aires, 1949).

REPUBLICA ARGENTINA: *Conservacion de Granos Y Almacenamiento en Silos Subterraneos* (Ministerio de Agricultura Y Ganaderia, Buenos Aires, 1949).

SAULNIER, R. J.: *Urban Mortgage Lending by Life Insurance Companies* (National Bureau of Economic Research, New York, 1950). $2.50.

To be reviewed.

STARK, W.: *La storia dell'economica in relazione allo svilluppo sociale.* Editrice l'industria Milano, 1950. Lire 500.

An Italian translation of a book reviewed in the *Economic Record* for December, 1945.

STELLING, ILSE: *Die Sozialisierung des Kohlebergbaus in Grossbritannien* (Kiel, 1950). D.M. 3.50.

To be reviewed.

TEW, BRIAN: *Wealth and Income* (Melbourne University Press, 1950). 21/-.

To be reviewed.

ULRICH, D. N., BOOZ, D. R., and LAWRENCE, P.: *Management Behaviour and Foreman Attitude* (Harvard School of Business Administration, 1950). 75 cents.

A study of conflicting attitudes of management and labour in an American plant. "Rather than understand how the employees received management, management was wholly preoccupied with trying to get the employees to 'understand things our way'." On the foreman were centred the tensions arising from the failure of communications between management and workers. It was found that "no matter how carefully anyone planned new technical procedures, the procedures alone could not create the kind of co-operation necessary to most effective operation of the plant. They would achieve maximum effect

only if the persons engaged in planning and carrying them out understood the impact they would have on people—including themselves." Although the conclusions are not surprising, the "case-study" method makes this short report an instructive essay in business administration.

UMBREIT, MYRON H., HUNT, ELGIN F., and KINTNER, CHARLES V.: *Modern Economic Problems* (McGraw-Hill, New York, 1950). $4.75. To be reviewed.

UNITED NATIONS PUBLICATIONS. (The following publications are available in Australia from H. A. Goddard Pty. Ltd., 255a George St., Sydney. Prices shown are sterling.)

Economic Survey of Latin America, 1948. 1949. 15/-.

This is the first issue of what will presumably be an annual survey of Latin America and as such it equals the standard of surveys of Asia and the Far East and Europe already published. The first half of the survey traces trends in production from 1937 to 1947, and the second part deals with "other economic aspects" such as population, transportation, the balance of payments and inflation. A generalized comparison of the two sections explains the recent economic history of Latin America, and its present economic problems. War-time demands for Latin American products have brought no great permanent expansion of the volume of production or foreign trade, although its value has expanded. The resulting inflation now presents Latin America with obvious economic problems, some of the reactions to which have been measures to curb the tendency to import beyond the means of the countries. More than 100 tables illustrate the text and overall a very good picture of the economic position of Latin America is presented.

The effects of Taxation on Foreign Trade and Investment. 1950. 3/9.

This study discusses (1) the role which taxes on foreign trade and investment play in the over-all government revenue picture, especially in under-developed countries; (2) the importance which tax factors have in directing the flow of foreign goods and capital; (3) the specific types of tax barriers and methods of tax incentives which are operating or can operate to deter or promote the expansion of foreign trade and investment; (4) the problem of international double taxation and the numerous techniques by which governments seek, through law or treaty, to bring this problem under control.

Review of International Commodity Problems, 1949. 1950. 4/6.

The latest survey of the production and trading situation of the most important raw materials—food, metals, oil and petroleum, etc. It is noted that in 1949 there was a recovery of production, with some stock piling. The need for caution in encouraging production of some of these commodities in underdeveloped areas is stressed. A development programme which ignores world trends in the various alternative commodities which might be produced could bring serious results not only in the areas concerned but also to other regions being developed. There are detailed tables and discussions of the prices and production during 1948 or 1949 of the most important basic commodities.

Economic Survey of Europe in 1949. 1950. 15/-.

Reviewed in this issue.

Economic Development in Selected Countries. Volume II. 1950. 15/-.

This is the second in a series of studies dealing with economic development programmes of individual countries to be prepared by the United Nations Department of Economic Affairs. This volume outlines programmes in Australia, Bulgaria, Columbia, New Zealand, the Philippines, Puerto Rico, South Rhodesia and the Union of South Africa.

Incorporating information drawn from recent (1947-49) official sources, this study describes the most significant aspects of the above countries' programmes for economic development and briefly surveys national governmental organizations responsible for the implementation of programmes. The report mentions, in a general way, the obstacles encountered in the various countries and some of the methods of

overcoming them, but does not attempt to appraise the problems and progress of economic development.

The Economic Development of Latin America and its Principal Problems. 1950. 3/-.

An able essay by Professor Raul Prebisch, discussing the problems associated with the increasing industrialization of the Latin American countries. Industrialization is inevitable and advantageous, but its nature, its limits and its relation to the export of primary products need careful consideration. Particular attention is given to measures for raising productivity and for stimulating capital formation. The possibilities of anti-cyclical policy are discussed in a concluding chapter.

Catalogue of Economic and Social Projects. No. 2. 1950. 27/6.

This catalogue describes and classifies the work of the secretariats of the United Nations and of the specialized agencies in the economic and social fields, including research studies and investigations. The present issue covers the period January, 1949, to January, 1950, including work and projects carried over from previous years. It is a useful reference book for investigators in many fields, and a source of general information about the numerous activities of the United Nations and the specialized agencies which do not receive newspaper publicity.

United Nations Documents Index. 1950. Annual subscription 50/-.

A monthly subject index, issued first in February, 1950, to the documents and publications of the United Nations and the Specialized Agencies. Each issue contains a list of documents and publications arranged by symbol, and an alphabetical subject index which will be cumulated annually. The Index should be valuable to libraries, and research workers will appreciate a guide to the now formidable volume of United Nations publications.

National Income Statistics of Various Countries, 1938-1947. 1950. $2.50, cloth; $1.50, paper.

To be reviewed.

Economic Survey of Asia and the Far East, 1949. $3.00. 22/6 stg.

This is the second annual economic survey of this region. It covers the same ground as its predecessor of 1948 in surveying developments in production, trade and other economic spheres. As well, it has an additional section comprising the latter half of the survey, devoted to "factors and problems underlying post-war economic development," and covering such important topics as population, mineral resources, flood control and other allied subjects. Apart from some poorly devised maps of mineral resources the survey maintains a good standard.

VARIOUS AUTHORS: *Public Health and Demography in the Far East* (The Rockefeller Foundation, New York, 1950).

This is a factual investigation of the trends of population in six Far Eastern countries with special reference to the problems arising from the inter-relation between demographic factors and the advance of standards of health in the Area.

VINER, JACOB: *The Customs Union Issue* (Stevens, London, 1950). 20/-.

To be reviewed.

WADHAM, S. M., and WOOD, G. L.: *Land Utilization in Australia.* Second edition. (Melbourne University Press, 1950.) 30/- .

To be reviewed.

WEILLER, JEAN: *Problèmes d'Economie Internationale* (Presses Universitaires de France, Paris, 1950). Fr. 800.

To be reviewed.

WILSON, THOMAS: *Modern Capitalism and Economic Progress* (Macmillan, London, 1950).

To be reviewed.

WOODWORTH, G. W.: *The Monetary and Banking System* (McGraw-Hill, New York, 1950). $3.50.

To be reviewed.

The South African Journal of Economics

(Published Quarterly for the Council of the Economic Society of South Africa.)

Editors:

Professor C. S. Richards
(Managing Editor)
Dr. W. J. Busschau **Dr. H. M. Robertson**

The South African Journal of Economics is the only Economic Journal in Southern Africa. It contains authoritative articles on theoretical economic questions as well as on African economic, financial and commercial affairs.
The Journal is published quarterly in March, June, September and December. Each number of approximately 120 pages contains articles, reviews, notes and memoranda, official publications, tabulated official South African statistics, and recent periodicals and new books.
Single Copies at 6/- each and Subscriptions at £1/1/- per annum from Messrs. Staples Press Ltd., 10 Cavendish Place, London, W.1.
Members of the Economic Society of Australia and New Zealand can obtain **The South African Journal of Economics** at the reduced rate of 18/- per annum (Australian Currency), by application to the Hon. Secretary, Department of Commerce, University, Carlton, N.3, Melbourne.

INDIAN JOURNAL OF ECONOMICS

Official organ of the Indian Economic Association (founded in 1918).

PUBLISHED QUARTERLY.

Annual Subscription: Inland Rs. 12. Foreign £1/4/-, or $5.50.

Editorial Board:

B. N. Ganguli
Abdul Qadir
M. K. Ghosh
B. R. Shenoy
D. Ghosh
Saraswati Prasad
(Managing Editor)

Contents:

(a) Articles by recognized authorities on Economic Theory, Economic History, Indian Economic Problems, Public Finance, Business Finance, Insurance, Planning, Statistical Methods, Econometrics, Mathematical Economics, Money and Banking, Trade, Industrial Organization, Marketing, Transportation, Agriculture, Industries, Economic Geography, Labour and Industrial Relations, Social Insurance, Co-operation and Population.

(b) Reviews of books.

(c) Notes and Memoranda on current economic affairs.

(d) Information about new publications of various Governments and International Organizations and about important articles appearing in other journals.

Issued by

THE DEPARTMENTS OF ECONOMICS AND COMMERCE, UNIVERSITY OF ALLAHABAD, U.P. (INDIA).